

xylem

Field ready: Exploring applications with YSI Pro Series

Smart solutions for
water quality & flow

May 20, 2026





Presentation outline



Water quality sampling instruments



Field application stories



Q&A

Water quality sampling instruments

Overview

Smart solutions for
water quality & flow

YSI water quality instruments



Portable handhelds

- Options for single, dual, and multi-sensor
- Electrochemical/membrane-covered DO and optical DO
- Upcoming Pro711 TSS Handheld



Photometers

- Rugged and portable for field use
- Easy-to-use touch screen and user interface with guided calibration
- Internal memory for settings and data



Autosamplers

- Reliable, accurate peristaltic pump
- Composite or discrete sampling with insulated storage
- Custom programming with external sensor trigger options

Pro Series

Key features

Durability

- Military-spec cable connectors
- IP-67 waterproof
- Rubber over-molded casing and drop rated to 1 meter

Ease-of-use

- User-replaceable sensors and cables
- High-visibility backlit display
- Intuitive, menu-driven interface

Reliable data

- Smart calibration
- Optical or electrochemical DO



3-year instrument warranty
2-year cable warranty



ProSolo

The ProSolo is YSI's premier optical DO handheld

- Single-sensor portable
- Uses optical dissolved oxygen technology (ODO)
 - Dissolved Oxygen/Temperature
 - Dissolved Oxygen/Conductivity/Temperature
 - Optical BOD (laboratory measurement)
- For those interested only in [DO measurement](#)



ProSolo

Key features



Rechargeable lithium-ion battery



100,000+ data set memory



Data managed through Kor Software



EPA-approved methodology for compliance reporting of BOD, COD, CBOD, and DO



Cable assembly lengths up to 100 m



Pro20 / Pro20i

- Single Sensor DO portable
- Uses **membrane-covered DO** (non-optical)
 - Offered in 4 m and 10 m kits
 - BOD probe can be used on the Pro20
 - Pro20i - integrated cable
 - Pro20 - non-integrated cable



Pro20

Key features



Replaceable batteries



50 dataset memory



Choice of galvanic or polarographic DO electrode



EPA-approved methodology for compliance reporting of BOD, COD, CBOD, and DO



Cable assembly lengths up to 100 m



ProQuatro

- Multiparameter handheld using Pro Series analog sensors
- Expanded Ion Selective Electrode (ISE) options
 - Nitrate
 - Ammonium
 - Chloride
- Data and user calibration records accessed through USB
- User-replaceable sensor modules for pH, ORP, nitrate, chloride, and ammonium sensors



ProQuatro

Key features



Replaceable batteries



5,000+ dataset memory



Choice of galvanic or polarographic DO electrode



EPA-approved methodology for compliance reporting of BOD, COD, CBOD, and DO



Cable assembly lengths up to 30 m



ProDSS

Most advanced YSI handheld for single-point or continuous logging

- ProDSS 4-port cable combines any 4 sensors on one cable assembly
- Durable titanium-welded digital sensors fit into any sensor port
- Utilizes Optical Dissolved Oxygen (ODO)
- Expanded sensor options: Turbidity, Chlorophyll, Phycocyanin/Phycoerythrin



ProDSS

Key features



Rechargeable lithium-ion battery



100,000+ data set memory



Data managed through Kor Software



EPA-approved methodology for compliance reporting of BOD, COD, CBOD, and DO



Cable assembly lengths up to 100 m



ProDSS

Parameters

Optical Dissolved Oxygen

Turbidity

Total Algae – Phycocyanin

Total Algae – Phycoerythrin

pH

ORP / Redox

Conductivity

Specific Conductance

Salinity

Total Dissolved Solids (TDS)

Resistivity

Seawater Density

Total Suspended Solids (TSS)

Depth

GPS Coordinates

Ammonium / Ammonia

Chloride

Nitrate

Temperature

Barometric Pressure



ProDSS KorLink

Bluetooth adapter



For handheld monitoring and more using your mobile device



Enables communication with **Kor Mobile** on Android or iOS



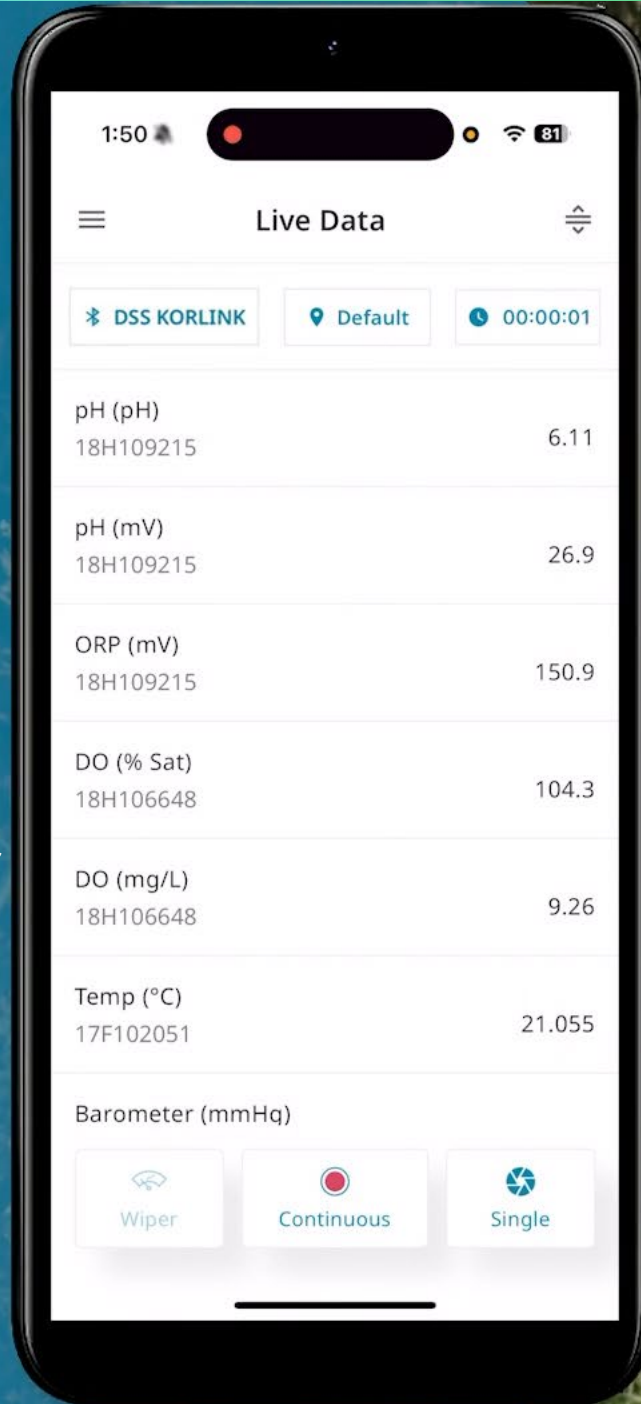
Onboard memory for data storage and transfer



Built-in GPS and barometer



Connect and power ProDSS, ProSolo, ProSwap cables



9800 Photometer

Key features



5-wavelength multiparameter photometer for field or lab



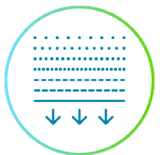
Lightweight (0.90 kg) and compact



Large touchscreen



10,000+ data record storage capability



Ideal for field measurement of parameters not available through Pro Series



9800 Photometer

Parameters

Alkalinity, Total

Aluminum

Ammonia

Bromine

Calcium Hardness

Chlorine, Free

Copper

Cyanuric Acid

Fluoride

Hardness, Total

Iron HR

Magnesium

Manganese

Nickel

Nitrate

Nitrite

Ozone

pH- Phenol Red

Phosphate LR

Potassium

Sulfate

Turbidity



ProSample

Key features



Environmental, industrial, stormwater, wastewater applications



Simple programming and calibration – 12 user-defined programs



Battery-operated



Multiple bottle configurations and high-accuracy sample volume



Built to last with double-walled insulated housing and durable peristaltic pump and tubing



YSI ProSample

- **Composite Sampling** - all models
- **Discrete Sampling** - Only on full-sized models, P & P-12
- ProSample PM ideal for tight installations
- Sampling based on time, event, flow pacing
- **Flexible Connectivity Options:**
 - Analog 0/4-20mV
 - Digital
 - SDI-12 (Only P-12 and PM-12 models)



In the field

Water quality sampling application stories

Smart solutions for
water quality & flow

Great Lakes Fisheries

ProDSS Multiparameter Handheld



Supporting sustainable fisheries in Lake Erie requires consistent, high-quality water monitoring to understand **ecosystem health and fish population dynamics**



Challenge

- Need **accurate, repeatable measurements** of key water quality parameters across multiple sampling sites
- Require full water column profiles to understand **fish distribution and low-oxygen impacts**
- Must efficiently **manage large datasets** and track long-term trends (e.g. algal blooms, nutrient changes)
- Ensure **precise location tracking** and streamlined field sampling from boats

Solution

- **ProDSS multiparameter handheld** captures depth-stamped profiles of DO, temperature, and more
- **Integrated GPS and site logging** ensures consistent, repeatable sampling locations
- Simple, **rugged design** improves field efficiency during trawl and plankton surveys
- **Kor Software** enables fast data download and analysis
- Delivers **reliable insights** to improve fisheries assessments and management



Great Lakes Fisheries

Routine monitoring and trawl surveys

- Increased need for water quality monitoring due to an increase in harmful algal blooms (HABs) that could disrupt the food web
- Monitoring done through trawl surveys and lower trophic level surveys using the ProDSS
 - Trawl surveys conducted May – September
 - Depth and dissolved oxygen data collected at depths of 15 feet to 40 feet
- Correlate areas of low fish distribution to dissolved oxygen levels
- Determine sites that should be excluded from basin-wide indices due to low oxygen levels



Great Lakes Fisheries

ProDSS Multiparameter Handheld

ProDSS



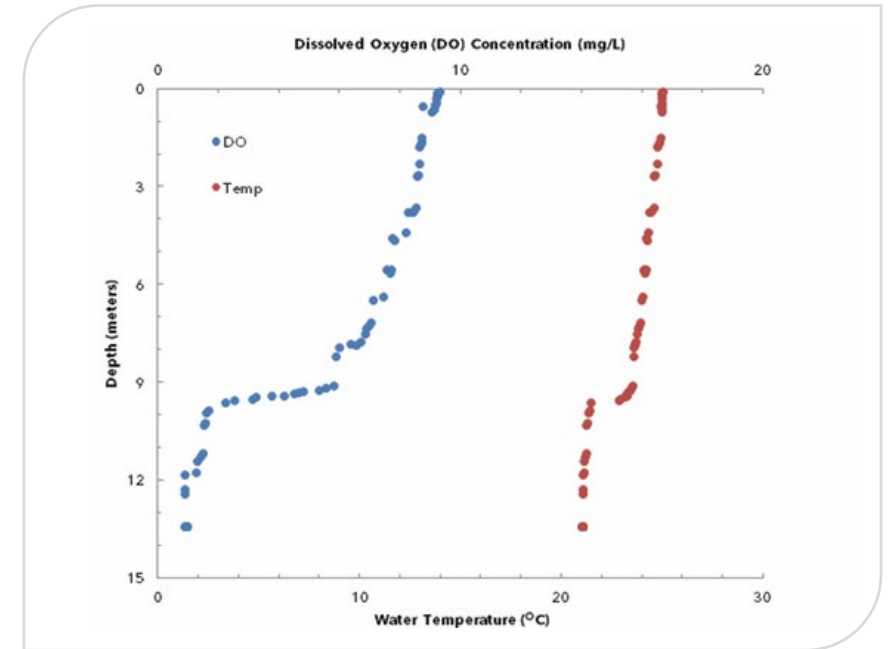
Water column profile data with GPS, depth, and DO



Store data from 8 separate sites sampled every 2 weeks to analyze monthly trends and compare to changes in nutrient levels



Easily download and analyze data through Kor Software



Wastewater applications

Using handhelds throughout the treatment process



YSI offers a well-rounded portfolio of portable instrumentation for **wastewater treatment**



Challenge

- Routine checks need to be performed at specific locations to **verify online sensors** or **troubleshoot process issues**
- Critical parameters need to be measured for treatment plants efficiency, such as **DO in aeration basins**

Solution

- Primary treatment: **Pro711**
- Secondary treatment: **ProSolo, Pro20/Pro20i, ProQuatro, ProDSS**
- Effluent: **ProQuatro, ProDSS, 9800 Photometer, 910 Colorimeter**



Pro711 TSS and Sludge Level Portable

Key features



TSS range up to 30,000 mg/L



Improved battery life compared to Royce 711



Depth Sensor



Sludge level profile graphing capabilities



Alarm function for sludge level interface



Multiple calibration storage for different locations in the plant



UK Water Utilities – Section 82

ProDSS and ProSolo for pollution events



Xylem UK supports local water companies **monitoring pollution events** in compliance with the UK Environment Act



Challenge

- The UK Environment Act (2023) calls for improving water stewardship across the UK with **new monitoring standards**
- Water companies are required to monitor **downstream impact** of reported pollution events
- Reduce monitoring costs while **maintaining accurate, reliable data**
- Parameters of interest include **dissolved oxygen, pH, turbidity, & ammonia**

Solution

- Xylem coordinates **end-to-end solutions** for water utilities and companies aiming to improve compliance efficiency
- **ProDSS and ProSolo systems** sample water quality at regular intervals and downstream of pollution sights
- **ProDSS** used for side-by-side spot checks at long-term deployment sites
- Data was managed through **HydroSphere** and used to track effluent impacts and changes from storm events



Successful ProDSS deployments

Tips from the field:

- ProDSS portable handheld systems are the industry leader for spot sampling and discrete water quality measurement
- ProDSS sensors can provide reliable data for short-term deployments in low fouling environments
- EXO Sondes deliver more consistent data for long-term deployments thanks to built-in anti-fouling



Oregon coast eelgrass restorations

Pro20 Dissolved Oxygen handheld



Supporting eelgrass **restoration efforts** to understand coastal ecosystem habitat recovery



Challenge

- Eelgrass beds are **nutrient-rich sites** and ideal nursery habitats for shellfish and juvenile fish
- Eelgrass restoration proves challenging after years of **global decline**
- **Limited access** to timely, site-specific **dissolved oxygen** data
- Reliance on **external monitoring stations** with delays and inconsistent coverage

Solution

- University researchers now collect site-specific **dissolved oxygen measurements** with the Pro20
- The **polarographic DO sensor** tracks how effectively eelgrass is oxygenating the sites and absorbing water pollutants
- The **Pro20** improved efficiency, data availability, and the ability to correlate water quality with eelgrass recovery and habitat health



Thank You

Questions?
info@ysi.com

Smart solutions for
water quality & flow

Katherine Vela
Product Manager, Water Quality Sampling
katherine.vela@xylem.com

