EXO Sondes

BEST-IN-CLASS PLATFORM FOR THE HIGHEST-QUALITY DATA

EXO Sonde Brochure

E102-06 Rev. A

YSI

a xylem brand

EXO™ YSI.com/EXO

When only the best will do.

EXO is the premium water quality monitoring platform in the world.

The unmatched benefits of **EXO** inlcude:

Highest Data Quality
Onboard monitoring systems verify sensor operation

Industry-leading Anti-fouling
Best-in-class anti-fouling wiper technology

Smart QC™
SmartQC checks for errors and ensures proper calibrations

Titanium Components
The toughest grade parts guarantee operation well into the future

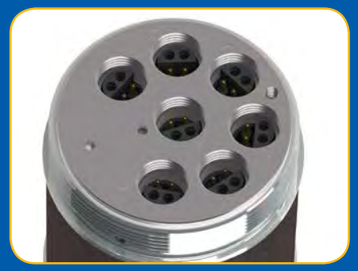
Digital Smart Sensors
Auto-recognition of any sensor in any port

EXO2^{S} EXO3 EXO1 EXO2

A **Smart**, **Field-Ready** Water Monitoring Platform

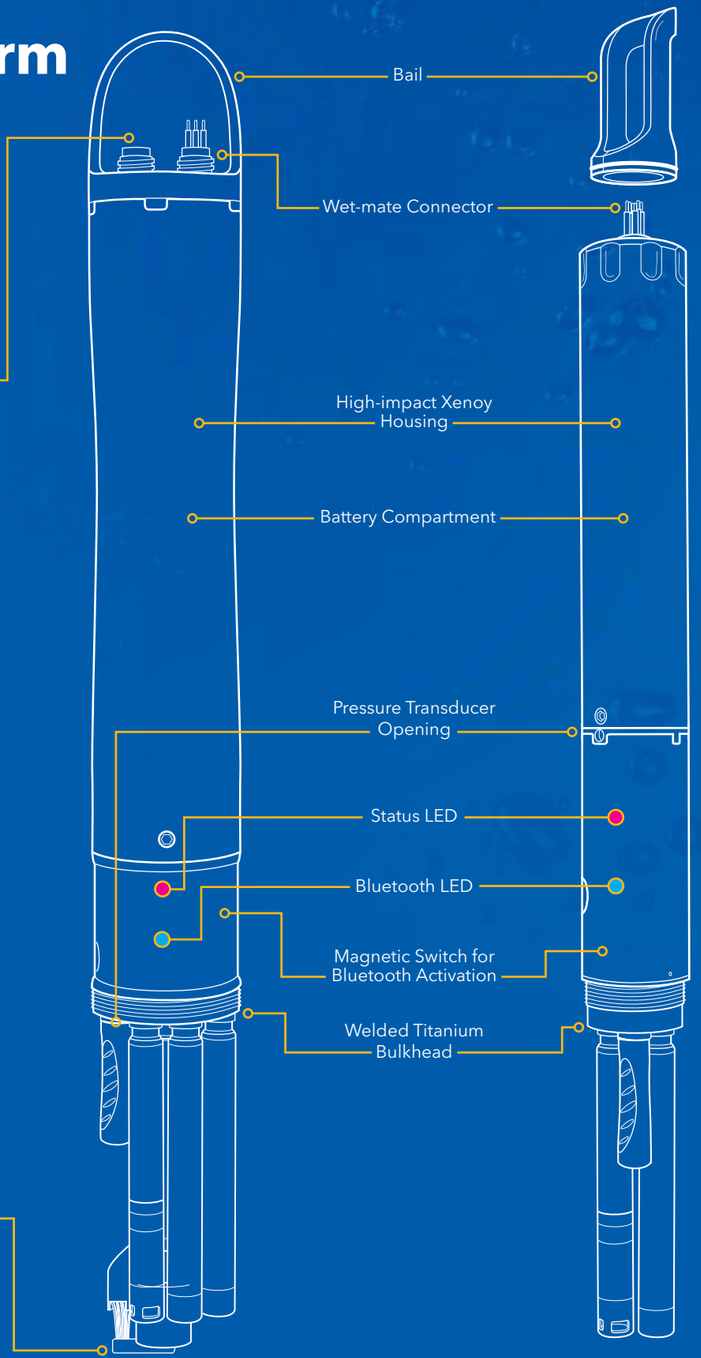
Best-In-Class **Sonde Platform**

Cable connector, battery valve, and expansion port on EXO2



Smart ports accept any sensor, or central port may be used for anti-fouling wiper

Anti-fouling wiper cleans sensor faces, minimizing maintenance and maximizing length of deployment



EXO2 **EXO1**

Selection Guide

	EXO1	EXO2	EXO2[S]	EXO3
Smart Ports	4	7	7	5
Battery Type	2 D-cell	4 D-cell	External Power	2 D-cell
Battery Life	90 days*	90 days*	N/A	60 days*
Dimensions	Length: 64.77 cm Diameter: 4.70 cm	Length: 71.10 cm Diameter: 7.62 cm	Length: 47.00 cm Diameter: 7.62 cm	Length: 58.67 cm Diameter: 7.62 cm
Weight (fully loaded)	1.42 kg	3.60 kg	1.10 kg	2.00 kg
SDI-12	with Adapter	with Adapter	with Adapter	Integral
Vented Level	✓	✓		
Wiper		✓	✓	✓
Auxiliary Port		✓	✓	

*Battery life will depend on the type of sensors and measurement frequency. Specifications indicate typical performance and are subject to change. Please check EXOwater.com for up-to-date information.

Sonde Specifications

Sondes	
Operating Temperature	-5 to 50°C
Storage Temperature	-20 to 80°C (may differ for sensors)
Depth Rating	0 to 250 m
Communications	Computer Interface: Bluetooth wireless technology, RS-485, USB Output Options: USB with signal output adapter (SOA); RS-232 & SDI-12 with DCP-SOA; Modbus & RS-485 with Modbus-SOA
Sample Rate	Up to 4 Hz
Data Memory	512 MB total memory; >1,000,000 logged readings
Warranty	2 years

EXO Sondes are perfect for long-term deployments. Daisy-chain multiple sondes for measurements at vaious depths.

Monitoring Made **Mobile**

EXO GO

EXO GO uses Bluetooth to connect any Windows OS device to a submerged **EXO Sonde**.

Pair with a tablet or laptop and leverage the full power of **KorEXO Software** for your monitoring applications.

EXO Handheld

The **EXO Handheld** offers a dedicated, streamlined interface to **EXO Sondes**.

Convenient monitoring is achieved with a backlit color display, ergonomic design, and simple operation.

	EXO GO	EXO Handheld
USB Connectivity	✓	✓
Bluetooth Connectivity	✓	
IP-67 Rating	✓	✓
Display		✓
Onboard Memory		✓
Operating Temperature	-5 to 50°C	0 to 50°C
Storage Temperature	0 to 45°C	0 to 45°C
Dimensions	17.4 x 5.2 x 3.5 cm	8.3 x 21.6 x 5.6 cm
Weight	240 g	567 g
Warranty	1 year	3 year meter, 1 year battery

Choose **EXO GO** for the flexibility of monitoring with any Windows OS device and access to the full features of KorEXO Software. EXO GO cuts out the middleman and delivers data directly to your PC!

EXO GO

KorEXO Software

Bring the full power of KorEXO to your site with any Windows OS portable device

Bluetooth Communication

Keep your sonde in the water while you view data in real time, download files, or adjust deployment settings on the GO

	Common Features
GPS	Accuracy: 2.5 m CEP (dependent on site conditions)
Barometer	Range: 375 to 825 mmHg Accuracy: +/-1.5 mmHg Resolution 0.1 mmHg
Battery	Operating Time: >15 hours Charging Time: 9 hours

Choose the **EXO Handheld** for an easy-to-use, purpose-built interface with a tactile keypad and full color display. Keep it simple and collect data in the most challenging environments with the EXO Handheld!

Simplified Interface

Lower the learning curve of collecting high-quality data with a simplified user interface and integrated help screens

Transfer Data

Quickly transfer collected data sets and calibration records to a USB flash drive with the push of a button

EXO Handheld

Common Feature

GPS Tagging

Georeference data sets using GPS

Lithium-Ion Battery

Collect more samples with the long-lasting, rechargeable battery

Common Feature

Smart Sensor Suite

A dynamic range of sensors for multiparameter applications

CENTRAL WIPER

DO

pH / ORP

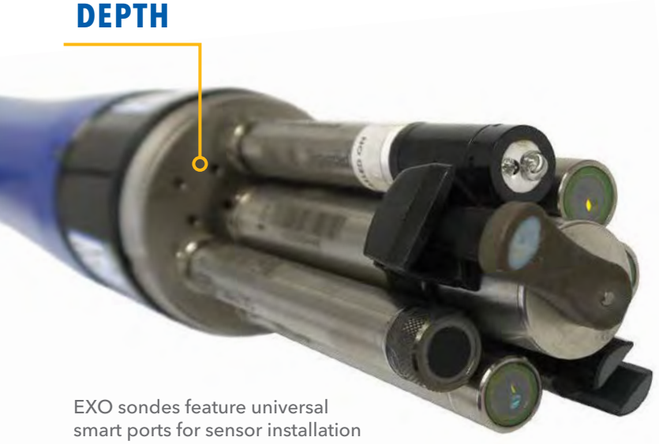
TAL-PC

fDOM

C / T (WIPED)

TURBIDITY

DEPTH



EXO sondes feature universal smart ports for sensor installation

Sensors Not Shown

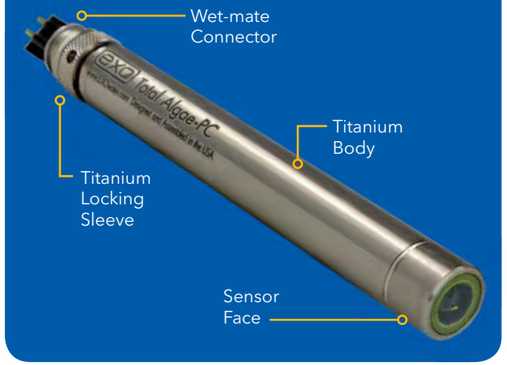
- CONDUCTIVITY / TEMPERATURE (NON-WIPED)
- TOTAL ALGAE-PE
- AMMONIUM ISE
- CHLORIDE ISE
- NITRATE ISE
- pH

Sensor Specifications

Sensor	Range	Resolution[1]	Accuracy[2]
Conductivity (Non-Wiped)	0 to 200 mS/cm	0.0001 to 0.01 mS/cm	±0.5% of reading or 0.001 mS/cm, w.i.g. (0-100 mS/cm) ±1% of reading (100-200 mS/cm)
Temperature	-5 to 50°C	0.001°C	±0.01°C (-5 to 35°C) ±0.05°C (35 to 50°C)
Conductivity (Wiped)	0 to 100 mS/cm	0.0001 to 0.01 mS/cm	±1% of reading or 2 µS/cm, w.i.g.
Temperature	-5 to 50°C	0.001°C	±0.2°C
Depth or Vented Level	0 to 10, 100 or 250 m	0.001 m	±0.04% Full Scale
	0 to 10 m	0.001 m	±0.03% Full Scale
Dissolved Oxygen	0 to 500% air sat.	0.1% air sat.	±1% of reading or 1% sat., w.i.g., (0 to 200%) ±5% of reading (200 to 500%)
	0 to 50 mg/L	0.01 mg/L	±1% of reading or 0.1 mg/L, w.i.g., (0 to 20 mg/L) ±5% of reading (20 to 50 mg/L)
fDOM	0 to 300 ppb QSE	0.01 ppb QSE	Linearity: $r^2 \geq 0.999$ for 0 to 300 ppb QSE, MDL of 0.016 ppb QSE
pH	0-14 pH units	0.01 pH unit	±0.1 within ±10°C of cal temp ±0.2 for all other temps
ORP	-999 to 999 mV	0.1 mV	±20 mV
TAL-Chlorophyll	0 to 100 RFU or 0 to 400 µg/L chl	0.01 RFU or 0.01 µg/L of pigment	Linearity: $r^2 \geq 0.999$ for Rhodamine WT across full range
TAL-Phycocyanin or TAL-Phycoerythrin	0 to 100 RFU or 0 to 100 µg/L PC		
	0 to 100 RFU or 0 to 280 µg/L PE		
Turbidity	0 to 4000 FNU	0.01 FNU to 0.1 FNU	0.3 FNU or ±3% of reading, (0 to 999 FNU) ±5% of reading (1000 to 4000 FNU)

[1]Range dependent.
[2]Specifications indicate typical performance and are subject to change. Please check EXOwater.com for up-to-date information.

EXO Smart Sensor Anatomy



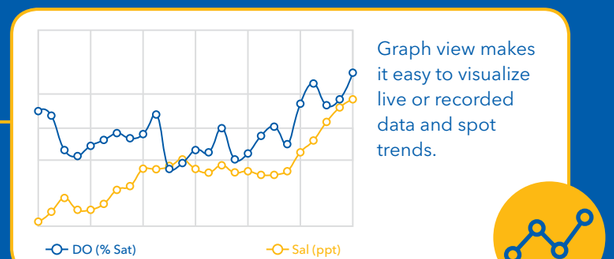
Calculated Parameters

The following parameters are calculated from one or more sensors listed above. More information about the methods and calculations may be found in the EXO User Manual.

- Absolute Pressure
- Ammonia
- DO% Local
- DO% LocalB
- Gauge Pressure
- nLF Conductivity
- Resistivity
- Salinity
- Specific Conductivity
- Total Algae cells/mL
- Total Dissolved Solids
- Total Suspended Solids
- Vertical Position
- Water Density

KorEXO Software

KorEXO is an accessible, feature-rich software platform for managing EXO instrumentation and water quality data. The software allows you to calibrate sensors, setup long-term deployments, and ensure equipment is operating at peak performance. Designed to run on Windows OS computers and tablets, the interface is optimized for touchscreens and streamlined for operation in the field, lab, or office.



Graph view makes it easy to visualize live or recorded data and spot trends.

Complete calibrations faster than ever! Redo or add calibration points on the fly with tips to ensure accuracy.

Sonde status is always on display so users know whether or not the sonde is deployed. New data are automatically downloaded when the sonde is connected.

The 'Provide Feedback' button allows users to share their thoughts and make suggestions to continuously enhance the experience.

KorEXO Software assigns a QC Score after every calibration. Notifications are displayed for calibration errors or if sensors are not performing properly.

Support and Protection for Your Peace of Mind

Protect your investment with the EXO Factory Service Plan*

With an **EXO Factory Service Plan**, you can minimize down-time and unexpected maintenance costs by keeping your equipment in top working order.

What does the Service Plan include?

Plans cover standard replacement parts, firmware updates, seal restoration, cleaning, comprehensive evaluation, testing, and calibration of all sensors.

What equipment is covered?

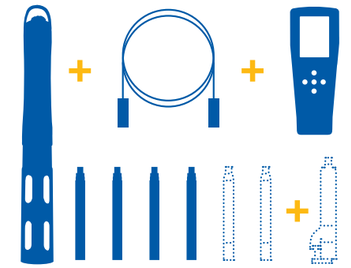
Each plan covers a single EXO sonde, field cable, handheld, and sensors purchased with the sonde.

How long does coverage last?

Plans are available for coverage up to 3 years from the time the EXO Sonde is purchased.

*Currently available in North America. Check with your regional technical support for service options.

Factory Service Center located in Yellow Springs, Ohio



Industry-Leading Technical Support

Our expert **Technical Support Team** is available to provide assistance and answer any questions that may come up in the field or lab.

Call +1 (937) 767-2762
to speak with our knowledgeable staff

Email info@ysi.com
for questions regarding your EXO equipment

Live Chat at YSI.com
for immediate response from technical experts

Technicians are available for in-house or on-site training events

Xylem |'zīləm|

1) The tissue in plants that brings water upward from the roots;
2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to **www.xyleminc.com**.

xylem
Let's Solve Water

"I'm very proud of the great work our customers do using our best-in-class sonde platform."

Dr. Stephanie A. Smith
EXO Product Manager

EXO™

YSI Incorporated
1725 Brannum Lane
Yellow Springs, OH 45387

1.800.897.4151
info@ysi.com
YSI.com/EXO

Who's Minding the Planet?®

Specifications are subject to change. Please visit YSI.com to verify all specs.
EXO™ is a trademark of Xylem Inc. or one of its subsidiaries. **Bluetooth**® is a trademark of Bluetooth SIG Inc.
Xenoy is a trademark of SABIC Plastics. © 2018 YSI, a Xylem brand E102-06 0318

YSI.com/EXO