

# YSI EXO Series Multi-Parameter Water Quality Sondes

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## Introduction

Yellow Spring Incorporated (YSI) is a leading manufacturer of water quality sensors and instruments. The EXO-series of water quality sondes are great for long-term deployment or spot-sampling and communicate via RS-485, or SDI-12.

## YSI EXO Multi-Parameter Water Quality Sonde Manual:

[https://www.fondriest.com/pdf/ysi\\_exo\\_manual.pdf](https://www.fondriest.com/pdf/ysi_exo_manual.pdf)



# YSI EXO-Series Multi-Parameter Water Quality Sonde

## Sensor parameters include :

Temperature, conductivity, depth, dissolved oxygen, pH, ORP, total algae (phycocyanin and chlorophyll), turbidity, and fluorescent dissolved organic matter (fDOM).

The sondes can also output 4 calculated parameters including salinity, specific conductance, total dissolved solids (TDS) and total suspended solids (TSS).

EXO1	EXO2	EXO3
4 sensor ports	7 sensor ports	5 sensor ports
No wiper port	Wiper port	Wiper port



EXO1



EXO2



EXO3

# YSI EXO-Series Multi-Parameter Water Quality Sondes

YSI EXO1 and EXO2 sondes communicate via a proprietary communication protocol which can be converted to RS-232, Modbus, SDI-12 and USB through an adapter.

EXO sondes can store data internally and/or relay the information to an external data logger via a DCP adapter.

All EXOs communicate via SDI-12 when used with NexSens loggers.

**Note:** The EXO3 does not require an adapter to communicate with a data logger.



**Note:** use of the UW-EXO housing requires no additional wiring

# Wiring the YSI EXO to DCP Adapter

**Note:** the DCP adapter is only needed for EXO1 and EXO2 sondes.

Data Logger to DCP	UW-FWP Pin #	iSIC-V2 (digital terminal)	Wire Color
9-16 VDC IN	J5	BAT	Red
GND	J2	GND	Black
SDI-12	J6	SDI-12	Brown



Sonde Connection	EXO Field Cable Wire Color
BLK	Black
YEL	Yellow
WHT	White
BARE	Bare
RED	Red

# Wiring the YSI EXO to DCP Adapter

## Wiring for the EXO3

Signal	EXO Wire Color
12V (+)	Red
SDI-12	Orange
Ground	Black
Ground	Bare
Unused	White
Unused	Yellow

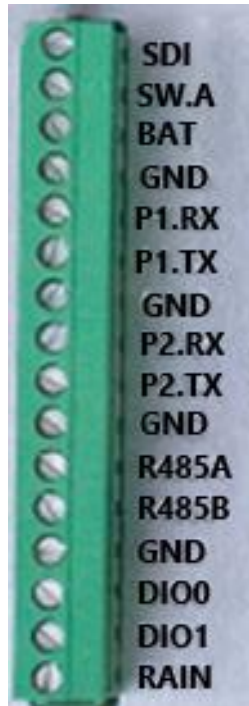
## Wiring EXO3 to Field Wireable Plug (UW-FWP)

Signal	UW-FWP Terminal Pin	EXO Wire Color
RS-232	J1	--
GND	J2	Black
RS-232 RX	J3	--
5V	J4	--
12V	J5	Red
SDI-12	J6	Orange
RS-485 B	J7	--
RS-485 A	J8	--



## Wiring EXO3 to iSIC-V2

i-SIC-V2 Digital Terminal	EXO Flying lead wire color
SDI	Orange
BAT	Red
GND	black



# Setting Up YSI EXO-Series Multi-Parameter Water Quality Sondes

## Setting up a template

Any EXO used with a NexSens data logger must have a template applied to it determining which parameters, and in what order, are logged from the sonde and pushed to WQData LIVE.

Templates are created and applied in the YSI [KorEXO software](#) which is available on the flash drive that comes with the instrument.



Download and open the KorEXO software, and connect the sonde via USB SOA or wireless bluetooth connection.

Once the sonde is identified, click the CONNECT button.

You are now ready to set up a template.

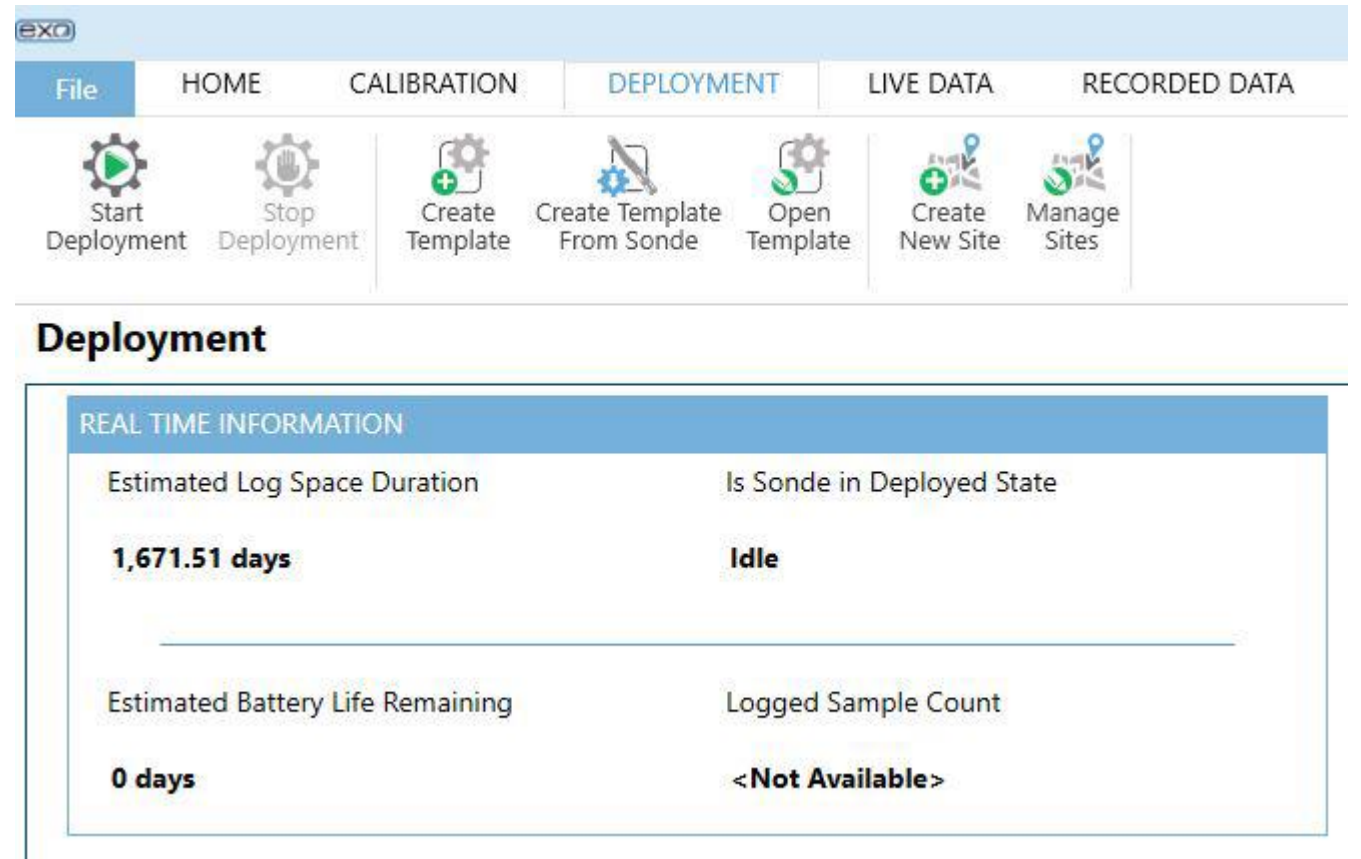
# Setting Up YSI EXO-Series Multi-Parameter Water Quality Sondes

## Setting up a template

Once connected, navigate to the DEPLOYMENT tab

At this point, you can :

- (1) upload an existing template to the sonde
- (2) Create a new template
- (3) Create a template from the sonde



The screenshot displays the YSI EXO software interface. At the top, there is a navigation bar with tabs for File, HOME, CALIBRATION, DEPLOYMENT (selected), LIVE DATA, and RECORDED DATA. Below the navigation bar, there are several icons for deployment and template management: Start Deployment, Stop Deployment, Create Template, Create Template From Sonde, Open Template, Create New Site, and Manage Sites. The main content area is titled "Deployment" and contains a "REAL TIME INFORMATION" section. This section displays the following data:

REAL TIME INFORMATION	
Estimated Log Space Duration	Is Sonde in Deployed State
<b>1,671.51 days</b>	<b>Idle</b>
Estimated Battery Life Remaining	Logged Sample Count
<b>0 days</b>	<b>&lt;Not Available&gt;</b>

# Setting Up YSI EXO-Series Multi-Parameter Water Quality Sondes

## Setting up a template

To create a new template for an EXO, choose **CREATE** a template and this dialog box will appear

At this point, you can:

- Input template / site name and description
- Adjust internal logging intervals (if desired)
- Change DCP adapter output
- Adjust advanced settings

Choose **DCP ADAPTER OUTPUT** to set the parameters the data logger should be logging and transmitting.

**Note:** the X2/G2/iSIC-V2 will use these parameters when you view the data on the web.

## Deployment Template Configuration

**BASIC DEPLOYMENT SETTINGS**

Deployment Template Name:

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Logging Interval Time File Name Prefix

hour(s) minute(s) second(s) ms

---

Site Name User Name

---

Deployment Template Description (Optional)

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DCP ADAPTER OUTPUT

ADVANCED


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# Setting Up YSI EXO-Series Multi-Parameter Water Quality Sondes

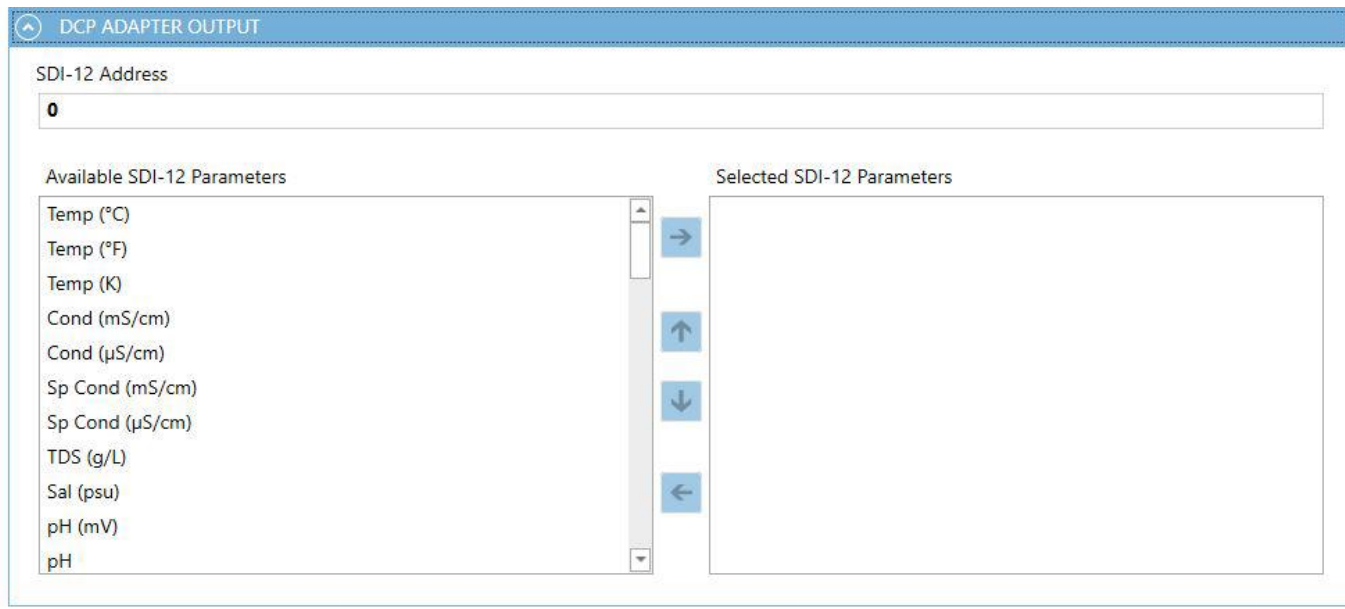
## Setting up a template

In this menu, parameters matching the sensors installed on the EXO can be added .

Select the parameters and proper units for your deployment and click the blue arrow to add them to the list. 

You can adjust the parameter order by using the blue up and down arrows.

**Note:** The chosen parameter ordering must be kept consistent after the initial setup, otherwise data values may be sent to the wrong web database locations.



DCP ADAPTER OUTPUT

SDI-12 Address  
0

Available SDI-12 Parameters

- Temp (°C)
- Temp (°F)
- Temp (K)
- Cond (mS/cm)
- Cond (µS/cm)
- Sp Cond (mS/cm)
- Sp Cond (µS/cm)
- TDS (g/L)
- Sal (psu)
- pH (mV)
- pH

Selected SDI-12 Parameters

# Setting Up YSI EXO-Series Multi-Parameter Water Quality Sondes

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## Setting up a template

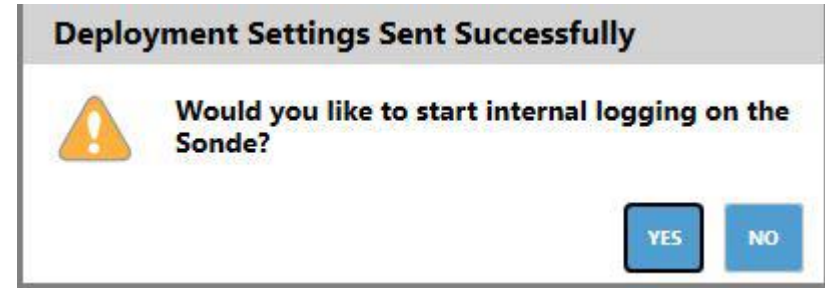
Save the settings and choose **SAVE AND APPLY TEMPLATE TO SONDE** from the previous menu.

SAVE AND APPLY TEMPLATE TO SONDE

A dialog box will appear asking if you would like to start logging

Choose **YES** to have the EXO log redundant samples in its own memory.

Choose **NO** to have the sonde data recorded by the data logger only.



Once the template is created, you can save it for later use, you can now go back to the main menu and **DISCONNECT** the sonde.