

## Sensor Installation Guide

### Before You Start

These instructions are relevant for NitraLED installation on EXO2 and EXO3 Sondes.

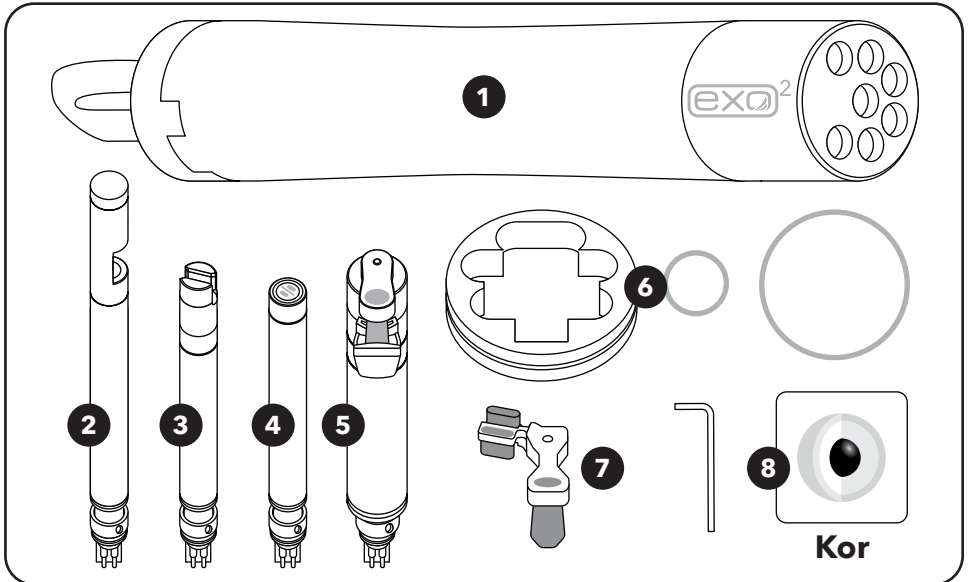
The NitraLED Sensor is compatible with EXO1; however, the Alignment Ring and Wiper Brush are not compatible, nor required, for NitraLED use on EXO1.

**NOTE:** For those with the EXO1 Sonde, it is important to understand the limitations of unattended monitoring without a wiper. Data can be impacted by fouling or even a bubble on the sensor lens, so YSI recommends EXO1 use ONLY under low fouling conditions and short-term deployments or for spot sampling applications.

### What Do You Need?

1. EXO2 or EXO3 Sonde
2. EXO NitraLED Sensor
3. EXO C/T Sensor (Wiped recommended)
4. EXO Turbidity Sensor
5. EXO Central Wiper
6. EXO2/EXO3 Alignment Ring
7. EXO NitraLED Wiper Brush
8. Kor Software\*

\*Make sure Kor Software is up-to-date and firmware has been updated for the sonde, wiper, and turbidity sensor.

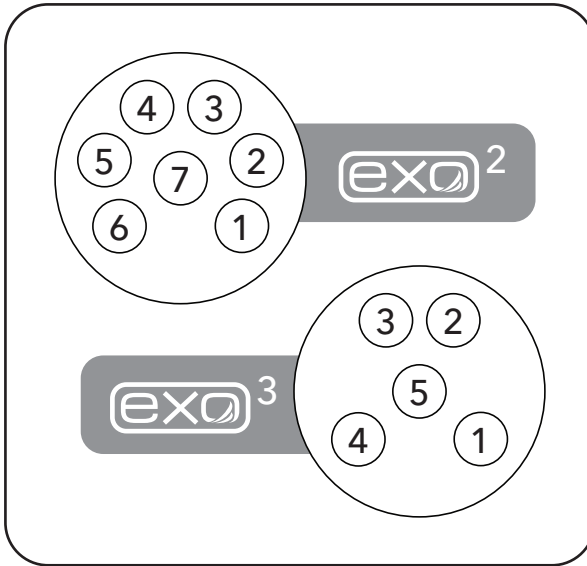


## Before Installation

Make sure software and firmware are updated to the latest versions.

Make sure at least the EXO Wiper, C/T, Turbidity, and NitraLED Sensors are installed as follows below:

- **NitraLED** must be installed:
  - **EXO2:** Port 6
  - **EXO3:** Port 4
- **Conductivity/Temperature** must be installed:
  - **EXO2:** Port 3 or Port 4
  - **EXO3:** Port 2 or Port 3



EXO Port Configuration

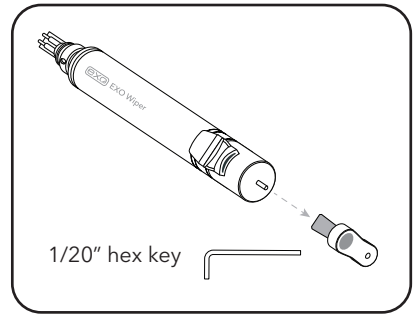


**IMPORTANT:** For **EXO2** configurations with NitraLED, **Port 5** should be reserved for one of the following sensors: pH, pH/ORP, ODO, or any of the Ion Selective Electrodes (ISEs). These sensors are not impaired by the Wiper Arm of the NitraLED Brush parked above Port 5.

# EXO Wiper Installation

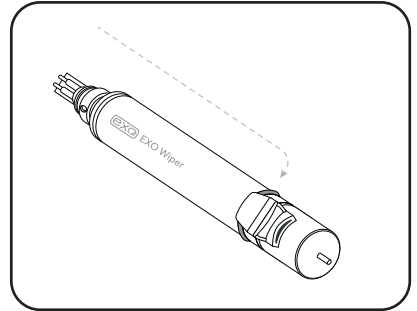
1

Remove old wiper brush by loosening the set screw with a 1/20" hex key. Clean any residue from wiper shaft.



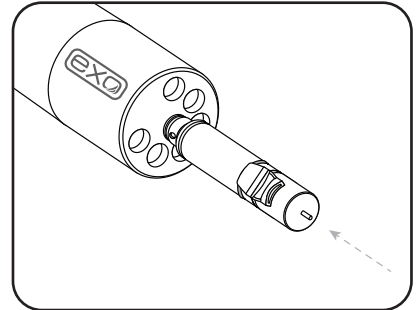
2

Roll the new o-ring up the wiper probe until it seats under the wiper brush guard.



3

Install the Central Wiper on to the sonde bulkhead.



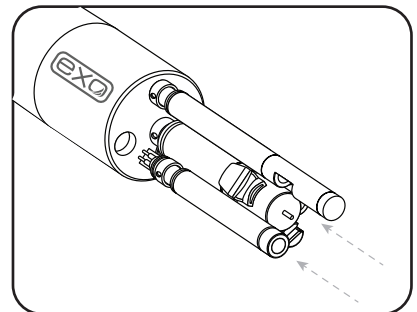
4

Install the remaining sensors.

**NitraLED** must be installed:

**EXO2:** Port 6

**EXO3:** Port 4

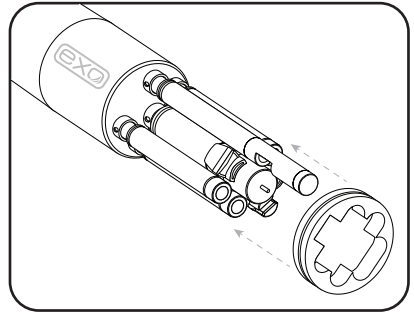


Do NOT leave any ports empty. Port plugs must be inserted into any port that does not have a sensor.

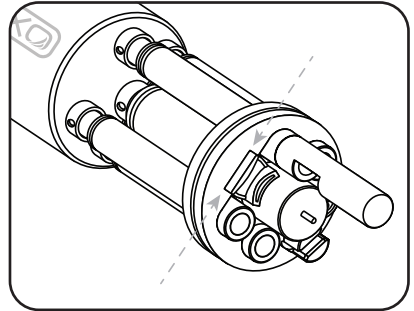
# EXO Alignment Ring Installation

1

Slide the Alignment Ring over the sensors.

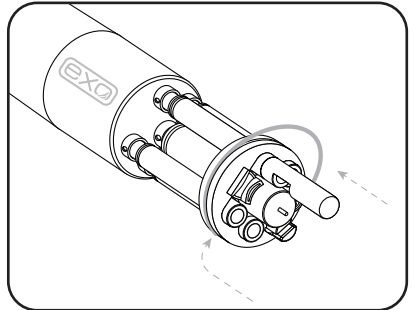


**IMPORTANT:** The top of the Alignment Ring should line up with the seam on the brush guard.



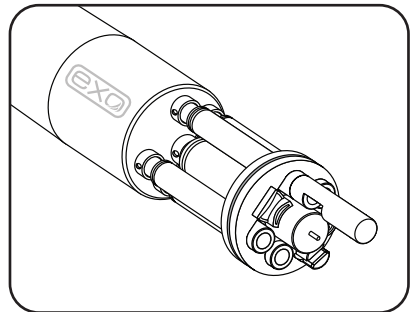
2

While holding the Ring in place, carefully pull the larger o-ring over the sensors and fit into the groove.



3

Once the o-ring is fully seated around the Alignment Ring, installation is complete.



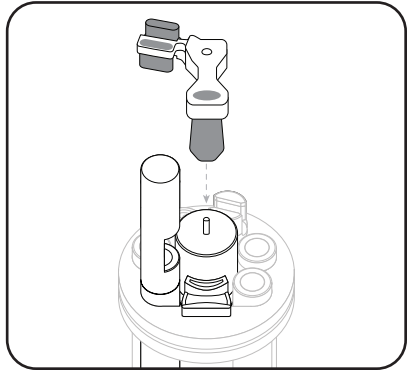
# EXO NitraLED Wiper Brush Installation

**NOTE:** The old wiper brush must first be removed using a 1/20" hex key.

1

The wiper shaft has a "D" shape and is sometimes referred to as the D shaft. The wiper brush fits on the D shaft only one way.

Slide the Brush onto the D shaft until fully seated.



Slide Brush down until fully seated on top of the Central Wiper

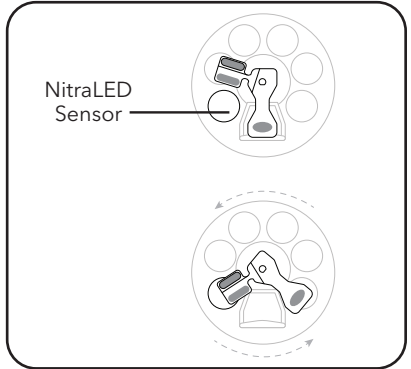


**DO NOT** tighten the screw yet.

2

Manually rotate the Brush counter-clockwise until the Wiper Arm is seated within the sensing window of the NitraLED Sensor.

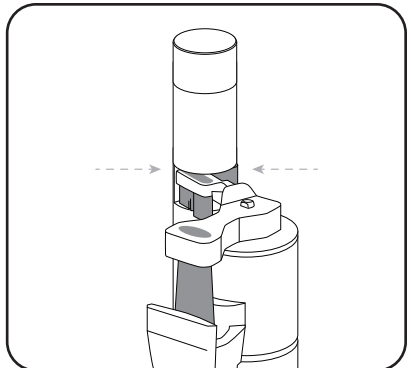
**NOTE:** Be careful not to use too much force while rotating the brush by hand.



(Top view) Center Wiper Arm within NitraLED Sensor window



Make sure the Wiper Arm is fully contained within the NitraLED sensing window.



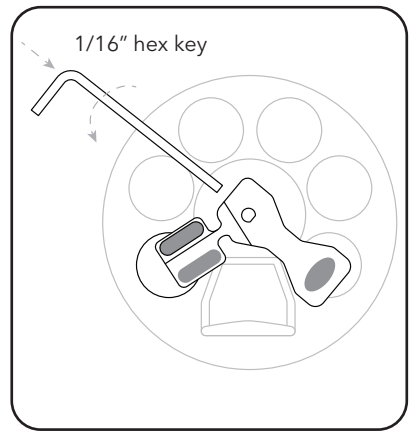
Other elements hidden to focus on the Brush and sensing window

3

In this position, tighten the set screw on the Wiper Brush using the 1/16" hex key.

There may be some resistance as the screw is designed not to back out easily.

After tightening, gently rock the brush to ensure a snug fit against the D shaft and tighten more if necessary.



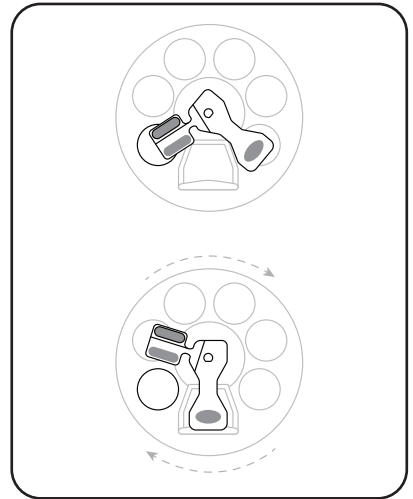
Tighten screw on back of Brush while centered in Nitrate window.

4

After the screw is tightened, manually rotate the Brush back to its home position.

**NOTE:** Be careful not to use too much force while rotating the brush by hand.

The main brush should be centered within the brush guard, while the Wiper Arm should be over port 5 of the EXO2 or the blank of the EXO3.



Rotate back so the main brush is over the guard.



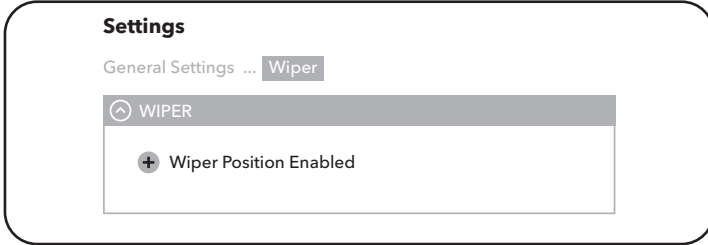
**IMPORTANT:** After installing the NitraLED Wiper Brush, users must switch the **Wipe Mode** to **NitraLED** using Kor Software.

# Update Wiper Settings

1

In Kor Software, make sure the Wiper Position is on.

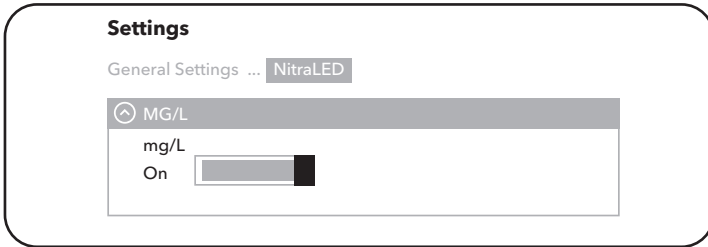
Go to **File > Settings** and select **Wiper** to enable **Wiper Position**.



2

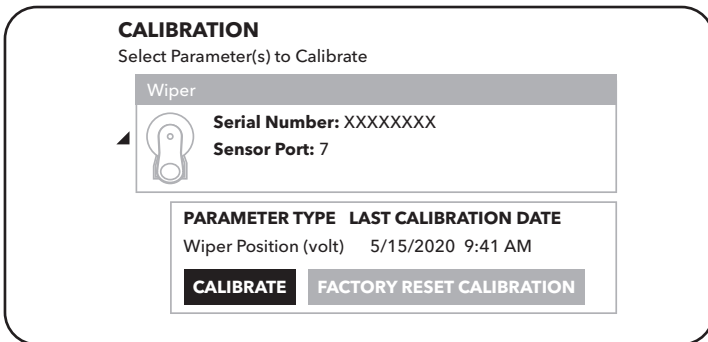
Also, make sure NitraLED is enabled.

Go to **File > Settings** and select **NitraLED** to enable **mg/L**.



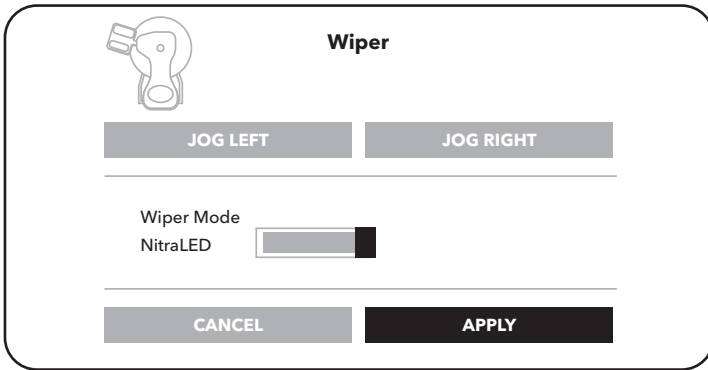
3

Go to the **Calibration** menu and select **Wiper**; then select **Calibrate**.



4

Enable the **NitraLED Wiper** mode and then click **Apply**.



5

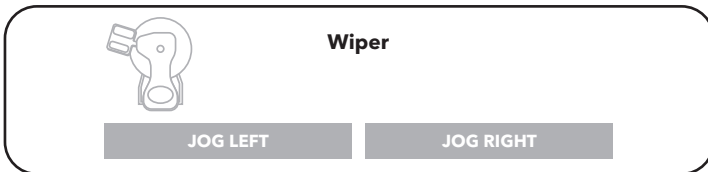
Go to **Live Data** and select **Start Wiping** to verify that the wiper brush effectively sweeps through the NitraLED sensor window and parks in its home position.



6

If the brush is off center after the wipe cycle, it will be necessary to adjust the seating location by selecting **Wiper** in the **Calibration** menu and selecting **Jog Left** or **Jog Right**.

Use the Jog controls to adjust the home position, ensuring that the main brush is centered within the brush guard and the Wiper Arm is not obstructing the entire sensing window.



## Contact Information



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Visit [YSI.com/EXO](https://www.ysi.com/EXO) to find the User Manual, specs, and accessories.

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