Pyxis®

ST-765SS-O3 Ozone Sensor

Ozone + pH + Temperature Sensor

Pyxis Lab® Inc.
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Lafayette, CO 80026
www.pyxis-lab.com

V1.05

USER MANUAL

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Warranty Information

Confidentiality

The information contained in this manual may be confidential and proprietary and is the property of Pyxis Lab, Inc. Information disclosed herein shall not be used to manufacture, construct, or otherwise reproduce the goods described. Information disclosed herein shall not be disclosed to others or made public in any manner without the express written consent of Pyxis Lab, Inc.

Standard Limited Warranty

Pyxis Lab warrants its products for defects in materials and workmanship. Pyxis Lab will, at its option, repair or replace instrument components that prove to be defective with new or remanufactured components (i.e., equivalent to new). The warranty set forth is exclusive and no other warranty, whether written or oral, is expressed or implied.

Warranty Term

The Pyxis warranty term for the ST-765SS Series sensor body is thirteen (13) months from original shipment from Pyxis. The Pyxis warranty term for the EH-765 (electrode reference head) installed on the ST-765SS Series sensor body is six (6) months from original shipment from Pyxis. In no event shall the standard limited warranty coverage extend beyond this timeline from original shipment date.

Warranty Service

Damaged or dysfunctional instruments may be returned to Pyxis for repair or replacement. In some instances, replacement instruments may be available for short duration loan or lease.

Pyxis warrants that any labor services provided shall conform to the reasonable standards of technical competency and performance effective at the time of delivery. All service interventions are to be reviewed and authorized as correct and complete at the completion of the service by a customer representative, or designate. Pyxis warrants these services for 30 days after the authorization and will correct any qualifying deficiency in labor provided that the labor service deficiency is exactly related to the originating event. No other remedy, other than the provision of labor services, may be applicable.

Repair components (parts and materials), but not consumables, provided during a repair, or purchased individually, are warranted for 90 days ex-works for materials and workmanship. In no event will the incorporation of a warranted repair component into an instrument extend the whole instrument's warranty beyond its original term.

Warranty Shipping

A Repair Material Authorization (RMA) Number must be obtained from Pyxis Technical Support before any product can be returned to the factory. Pyxis will pay freight charges to ship replacement or repaired products to the customer. The customer shall pay freight charges for returning products to Pyxis. Any product returned to the factory without an RA number will be returned to the customer. To receive an RMA you can generate a request on our website at https://pyxis-lab.com/request-tech-support/.

Pyxis Technical Support

Contact Pyxis Technical Support at +1 (866) 203-8397, service@pyxis-lab.com or by filling out a request for support at https://pyxis-lab.com/request-tech-support/.

1. Introducing the Pyxis ST-765SS-O3 Sensor

Description

The Pyxis ST-765SS-O3 is a stainless-steel multi-parameter membrane-less sensor based on unique electrochemical principles to determine Ozone plus pH and temperature of water. This sensor incorporates Pyxis' advanced technology in the field of bare-gold electrochemical detection. The ST-765SS-O3 can simultaneously compensate for temperature and pH in the measurement of Ozone based on real-time conditions present in the application of use. This unique internal compensation results in a highly accurate oxidizer measurement consistent with DPD wet chemistry methodology as high as a pH of 9.0+ and is compliant with USEPA – 334.0 and ISO-7393 guidelines.

The ST-765SS-O3 sensor offers a replaceable, front loading reference electrode assembly that has been independently developed by Pyxis Lab eliminating the shortcomings associated with membranes and gel replacement while offering reduced polarization time on startup with an electrode life span potential of up to 2-years. The flat front-end design of the ST-765SS-O3 makes this platform less prone to contamination or fouling and is easy to clean. The ST-765S-O3 sensor body is composed of 304 stainless steel and is well suited for aggressive environments.

The ST-765SS-O3 sensor offers 2x 4-20mA and RS-485 Modbus outputs and is Bluetooth 5.0 enabled when used in conjunction with the MA-CR Bluetooth Adapter. This four-electrode composite sensor provides three measured parameters including Ozone, pH and temperature with one sensor equipped with fully integrated 2x 4-20mA and RS-485 Modbus outputs. ST-765SS-O3 is uniquely designed for rapid and precise monitoring of disinfection process water applications utilizing Ozone.

ST-765SS-O3
Ozone + pH Sensor

Key Features

- Real-Time pH + Oxidizer (0-5ppm) Detection
- Dual 4-20mA Outputs (Oxidizer + pH) and RS-485
- Bluetooth Enabled when used with MA-CR Adapter Wireless uPyxis Calibration
- Integrated RTD & pH Compensation to pH 9.0+ of the Oxidizer Value
- Replaceable EH-765 Reference Electrode Assembly – Simple Maintenance

EH-765
Replacement Electrode for all ST-765SS Series

Common Applications

- Bottled Water Filler Production
- Spring Water Transport Disinfection
- Food / Beverage Processing Equipment Sanitizing
- Conveyors / Flume Water
- Irrigation & Process Water

1.1 Specifications

Item	ST-765SS-O3
P/N	53614
Sensor Body Material	304SS
Oxidizer Range	0.00-2.00 ppm Ozone
Oxidizer Precision	± 0.01mg/L or 1% of the value w/pH compensation up to 9.0+
pH Range	0-14
pH Precision	±0.01 pH
Sample Inlet Pressure	7.25 – 30 psi (0.05 – 0.2MPa)
Installation	ST-007 Stainless Steel Flow Cell Assembly *(Sold Separately)*
ST-007 Minimum Flow Rate	200 mL/minute
ST-007 Maximum Flow Rate	400 mL/minute
ST-007 Sample Inlet	¼ - inch OD
ST-007 Sample Outlet	¼ - inch OD
Power Supply	22 – 26VDC, Power Consumption 2W
Storage Temperature	-7 °C – 60 °C (20 – 140 °F)
Outputs	Dual Isolated 4 – 20 mA Analog Outputs + Isolated RS-485 Digital Output
Dimension (L x D)	Length 8.3 inch (210.8 mm), body diameter 1.4 Inch (35.6 mm)
Weight	530 g (1.16lbs)
Maximum Sensor Pressure	100 psi (6.9 Bar) – Sensor Only
Operating Temperature	4 °C – 49 °C (40 – 120 °F)
Wet Material	UPVC
Rating	IP67, Fully Dustproof & Waterproof
Selectivity	Non-Selective / Cross Sensitive to other Oxidizing Species
Compliance	EPA 334.0 / ISO 7393
Regulation	CE Marked / RoHS
Cables Included	MA-4.9CR Cable (8Pin Adapter – 4.9ft) MA-1.5CR Cable (8 Pin Adapter / Flying Leads – 1.5ft)
Typical Electrode Service Life	2 Years
Electrode Warranty	6 Months
Sensor Body Warranty	13 Months

NOTE *Specifications are subject to change without notice.*

1.2 Unpacking the ST-765SS-O3

Remove the instrument and accessories from the shipping container and inspect each item for any damage that may have occurred during shipping. Verify that all items listed on the packing slip are included. If any items are missing or damaged, please contact Pyxis Customer Service at service@pyxis-lab.com

1.3 Standard Accessories

- One **ST-765SS-O3** Series sensor (P/N: 53614)
    - Includes One **MA.4.9CR** – (Standard Cable Male-Female 8-Pin Adapters – 4.9ft)
    - Includes One **MA-1.5CR** – (Flying Lead Cable Female/Flying Lead 8-Pin Adapter – 1.5ft)
- The full instrument manual is available for download at Support Documents - Pyxis Lab, Inc. (pyxis-lab.com)

1.4 Optional Accessories

The following optional accessories can be purchased via order@pyxis-lab.com or your preferred Pyxis Lab distributor.

Accessory Name	Item number
EH-765 *(Replacement Reference Electrode Head for ST-765SS Series)*	53601
ST-007 (*Replacement ST-007 Stainless Steel Flow Cell*)	50700-A51
MA-CR *(Bluetooth Adapter For use with Pyxis 8-Pin Sensors)*	MA-CR
MA-NEB *(USB Bluetooth Adapter for use with Laptop or Desktop for uPyxis)*	MA-NEB
MA-50CR *(Extension Cable-50 feet)*	50743
UC-80 *(Display + Data Logging Terminal)*	14003
pH4-7-10 Combination Pack - Reference Standard Solutions *(500mL/each)*	57007
SP-200 OxiPocket *(Pocket All-Oxidizing Disinfectants Colorimeter & Fluorometer)*	50802
IK-765SS-O3 *(ST-765SS-O3 Sensor + ST-007 Flow Cell + UC-80 Display/Data Logger Panel Mounted)*	42091

2. Dimension & Installation

The ST-765SS-O3 should be installed in the ST-007 stainless steel inline sensor tee assembly for optimum accuracy. Ozone is highly oxidative and rapidly degrading. Stainless steel is recommended to ensure minimal ozone depletion between injection of treatment and the sensor. The ST-007 is provided with ¼-inch stainless steel OD inlet and outlet compression adapter (SwageLok) and it is recommended that ¼-inch OD stainless steel tubing be utilized for sample flow. The recommended flow rate for the ST-765SS-O3 sensor in the ST-007 inline tee assembly is 200-400mL per minute and should be controlled upstream with rotameter. The inlet water sample pressure should be maintained between 7.5 and 30 psi with discharge to open drain or atmospheric sump.

ST-765SS Series Dimensions (mm)

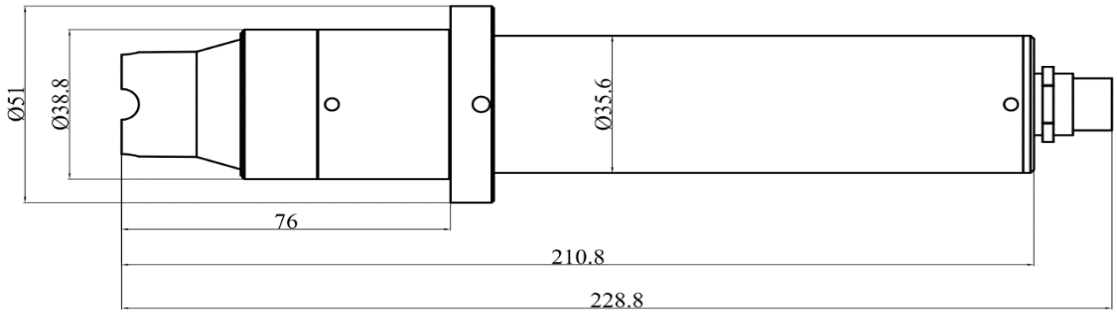


Figure 1. - Dimension of the ST-765SS (mm)

ST-007 Flow Cell Dimensions (mm)

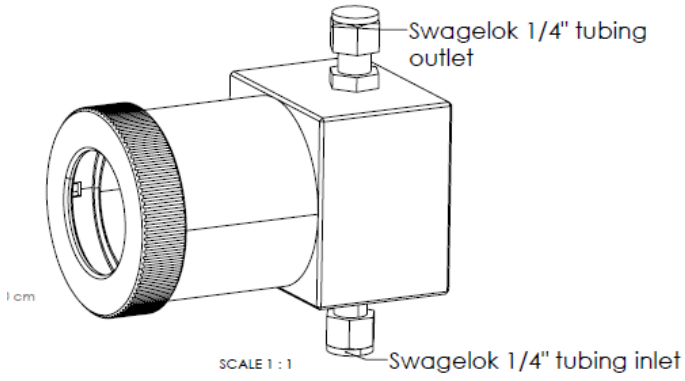


Figure 2. - ST-007 Flow cell for ST-765SS -O3

IK-765SS-O3 Ozone + pH + Temperature Online Monitoring Panel

For clients desiring a 'turn-key' ozone analyzer, Pyxis Lab offers the OxiPanel IK-765SS-O3. The IK-765SS-O3 is a pre-assembled Ozone + pH + Temperature monitoring panel consisting of the ST-765SS-O3 (Ozone) sensor with mounted ST-007 flow cell with 316L stainless steel interconnecting tubing, rotameter, digital flow sensor and the UC-80 Display + Data Logging Terminal. This platform solution offers real-time display, data logging and signal output capability of sample Ozone, pH and temperature.

The UC-80 is a microprocessor display/data-logging terminal that has been preconfigured to connect Pyxis inline sensors with fully integrated calibration, scaling and measurement protocol. The user may also configure and calibrate the output signal through the UC-80 controller's screen. The IK-765SS-O3 detection system can be applied to a clean water applications including bottled water production, drinking water networks, secondary water supply and alternative clean-water ozone treatment applications.

Item	P/N	Description
IK-765SS-O3	42091	ST-765SS-O3 Sensor + ST-007 Flow Cell + UC-80 Display/Data Logger

Image and Dimensions of IK-765SS Series (mm)

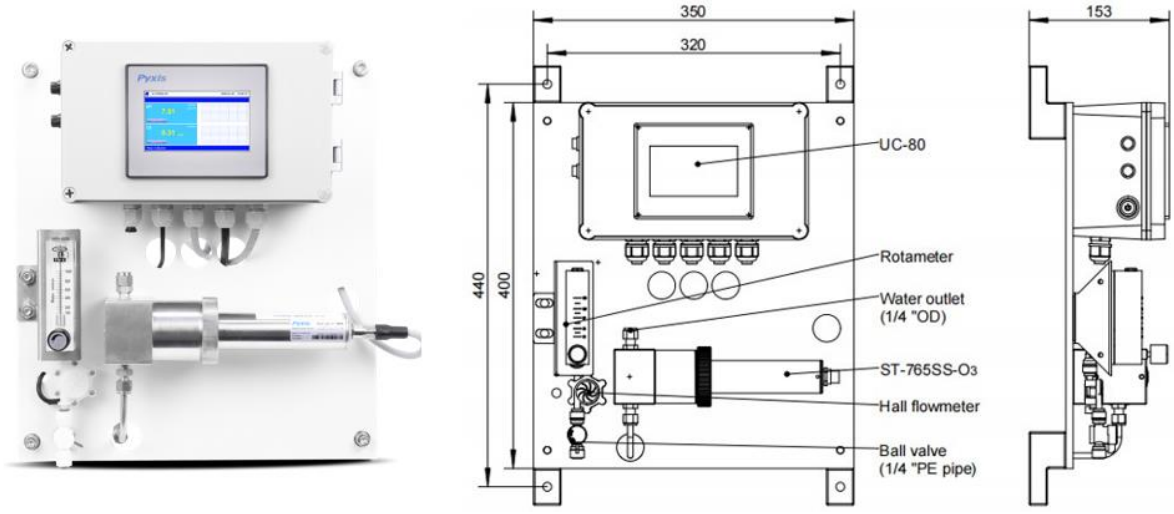
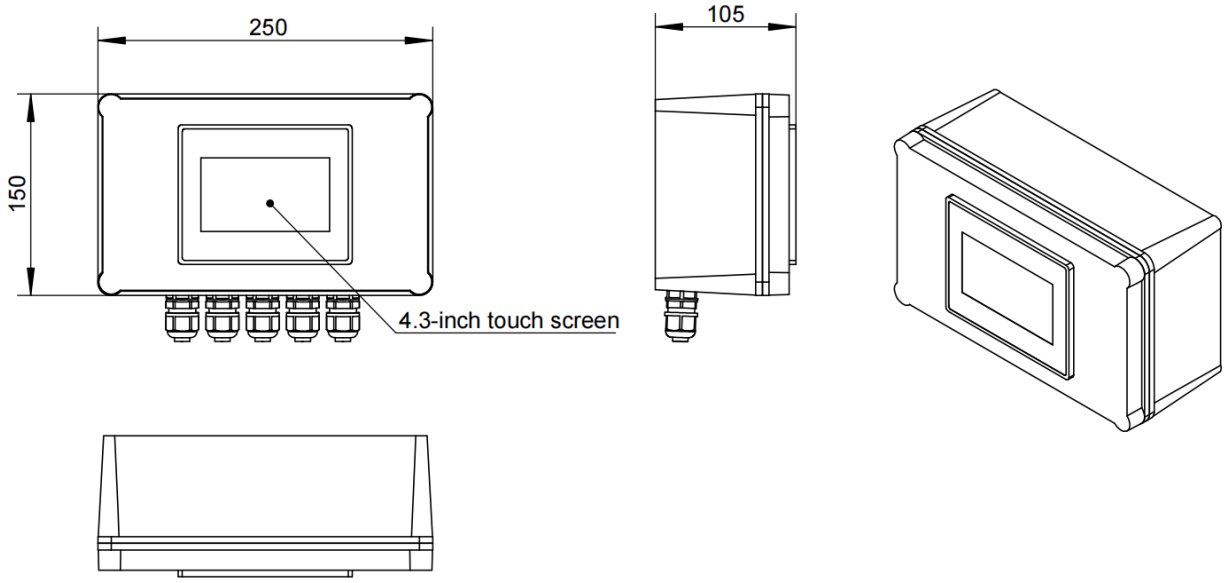


Figure 3 – IK-765SS-O3 Series Panel

Specifications of UC-80 Display/Data Logging Terminal

Item	UC-80
P/N	14003
Measurement Interval	Continuous Measurement
Display	4.3-inch LCD Color Industrial Capacitive Touch Screen
Storage Capacity	Built-In 128MB of Ram for Storing up to 1-Million Data/Event Records
Power Requirement	96-260VAC / 50-60 Hz; 200 W
Output	2 x 4-20 mA / RS-485 Modbus - RTU / Modbus TCP
Input	RS-485 Modbus - RTU
USB	1 x USB host, for data downloading and screen upgrade
Internet	RJ-45 socket, Modbus-TCP – For Pyxis CloudLink™
Panel Operational Temperature	40 – 113°F (4-45 °C)
Storage Temperature	Instrument: -4 – 131°F (-20 – 55°C)
Sample Water Temperature	40 – 104°F (4-40°C)
Rating	IP-65 Panel-Display
Regulation	CE / RoHS
Relative Humidity	20% - 90% (No Condensation)
Altitude	<6,561 feet (<2,000 Meter)
Dimensions (HxWxD)	H250×W150×D100mm
Approximate Product Weight	~ 5 kg

Dimensions of UC-80 (mm)



3. Quick 4-20mA Start Up

Follow the wiring table below to connect the ST-765SS-O3 sensor to a controller or PLC. ***NOTE*** *All Pyxis sensors provide a passive 4-20mA output signal, they are NOT LOOP POWERED. 24VDC+ power supply and 4- 20mA+ signal are independent of each other in all Pyxis Lab sensors.*

Wire Color	Designation
Red	24 V +
Brown	Power Ground
Green	Shield, solution ground
Gray	4-20 mA -
White	4-20 mA+ for Ozone
Pink	4-20 mA + for pH
Blue	RS-485 A
Yellow	RS-485 B
Black	Shield, solution ground

NOTE Pyxis recommends the 24VDC power supply to the ST-765 series sensor be turned OFF for systems that experience extended periods of stagnant water conditions exceeding one hour in duration.

ST-765SS-O3 Sensor 4-20mA Scaling		
Unit of Measure	**4mA Value**	**20mA Value**
pH	0.00 pH	14.00 pH
Ozone	0.00 ppm	2.00 ppm

NOTE *If the 24V power ground and the 4-20 mA-return in the controller are internally connected (non-isolated 4-20mA input), it is unnecessary to connect the 4-20 mA- (Gray wire) to the 4-20 mA negative terminal in the controller. If a separate DC power supplier other than that from the controller is used, make sure that the output from the power supply is rated for 22-26 VDC @ 85mA.*

4. Calibration and Diagnosis

The ST-765SS Series sensors are rigorously calibrated before leaving the factory. As such, users do not need to calibrate the sensor for a period of three months or up to one year if the sensor is maintained in clean condition. Users can however calibrate the sensor according to their application needs and as desired using the MA-CR Bluetooth adapter and uPyxis APP for mobile or desktop devices.

4.1 Calibration and Diagnosis by uPyxis Mobile App

Connect and power the ST-765SS sensor using the MA-CR Pyxis Bluetooth adapter (P/N: MA-CR) as shown in the following connection diagram. The power should be sourced from a 24 VDC power terminal of a controller. If a controller is not available, please purchase a 24VDC power supply.

MA-CR Bluetooth Adapter

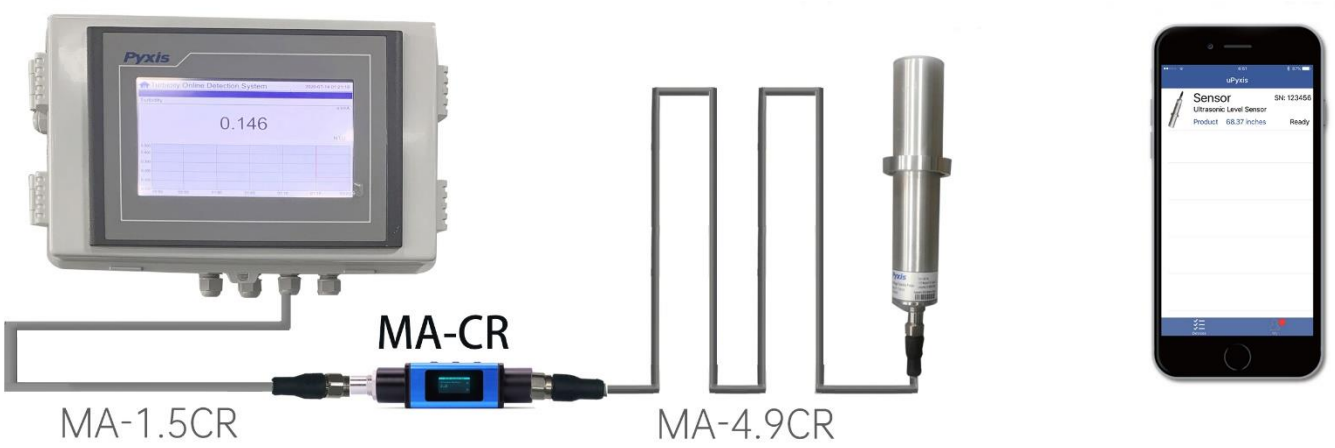


Figure 4. - Power the ST-765SS and MA-CR via USB

Download and install the uPyxis app from **Apple iStore** or **Google Play**. Turn on the Bluetooth in the smart device (please do not pair your device Bluetooth to uPyxis, the app will do the pairing). Open the uPyxis app in the device. Swipe down to refresh the screen to scan the available Pyxis Bluetooth devices. The discovered devices will be listed as shown in *Figure 6*.

Tap the discovered ST-765SS sensor to connect to the sensor. The uPyxis app can identify the sensor type if multiple Pyxis sensors are discovered in the scan.

As shown in *Figure 6,* in the calibration page of uPyxis after connected to the sensor via the MA-CR Bluetooth adapter the current Ozone, pH and temperature values will be displayed. Six functional tabs of each are available in this page: Zero Calibration, Slope Calibration, pH Low Calibration, pH 7 Calibration, pH High calibration and 4-20mA Span.

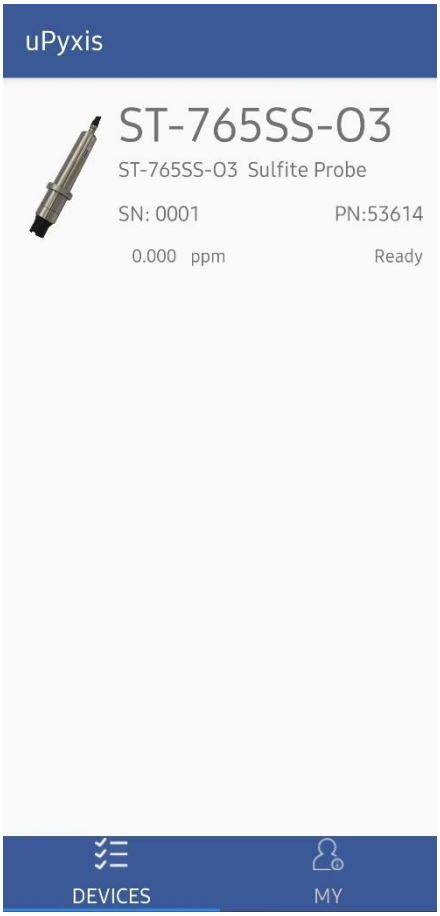


Figure 5 - ST-765SS Discovered via Bluetooth

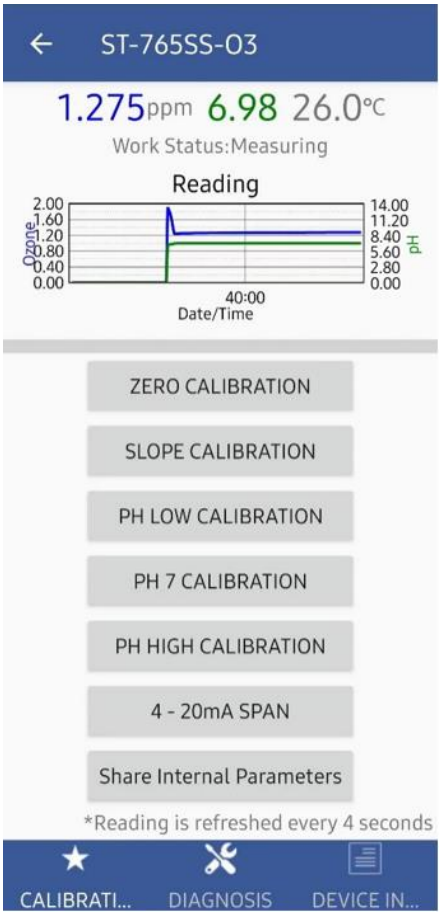


Figure 6 - Calibration Page

4.1.1 Ozone Calibration

The measurement module of the ST-765SS-O3 sensor is thoroughly calibrated at the Pyxis Lab factory. To calibrate, the user can perform a single-point calibration according to the requirements of the application. (USEPA-334.0 / ISO-7393 compliant methodology)

Calibration of the ST-765SS-O3 sensor for ozone should be done with the sensor inline exposed to active flowing sample water. Use a portable or laboratory colorimeter (i.e.. Pyxis SP-200 / SP-800 / SP-910 or similar) to test the active (flowing) water sample in the flow tee assembly. Once you have tested and confirmed the Ozone concentration value in the active (flowing) flow tee assembly, Tap **SLOPE CALIBRATION** and enter the test result value of the portable or laboratory colorimeter in Calibration Screen as shown in Figure 7. For best results, the concentration of the Ozone sample flow standard should be in the range of 0.1 to 2.00 ppm.

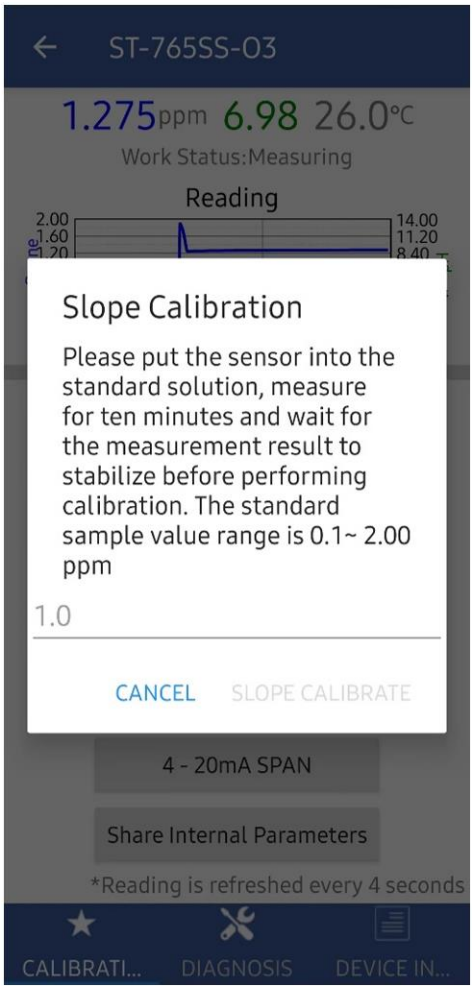


Figure 7 – Enter Test Confirmed Ozone Concentration to begin Slope Calibration

4.1.2 pH Calibration

Remove and place the sensor in a low pH (i.e.. 4.0) calibration standard solution and tap **pH LOW CALIBRATION** in the uPyxis app. Measure for 1 minute and wait for the measurement result to stabilize before performing calibration, the low pH calibration standard value range acceptable for this step is 1.00-6.00 pH.

Place the sensor into the pH 7.0 calibration standard solution and tap **pH 7 CALIBRATION** in the uPyxis app. Measure for 1 minute and wait for the measurement result to stabilize before performing calibration.

Place the sensor in a high pH (i.e.. 10.0) calibration standard solution and tap **pH HIGH CALIBRATION** in the uPyxis app. Measure for 1 minute and wait for the measurement result to stabilize before performing calibration, the high pH calibration standard value range acceptable for this step is 8.00-13.00 pH.

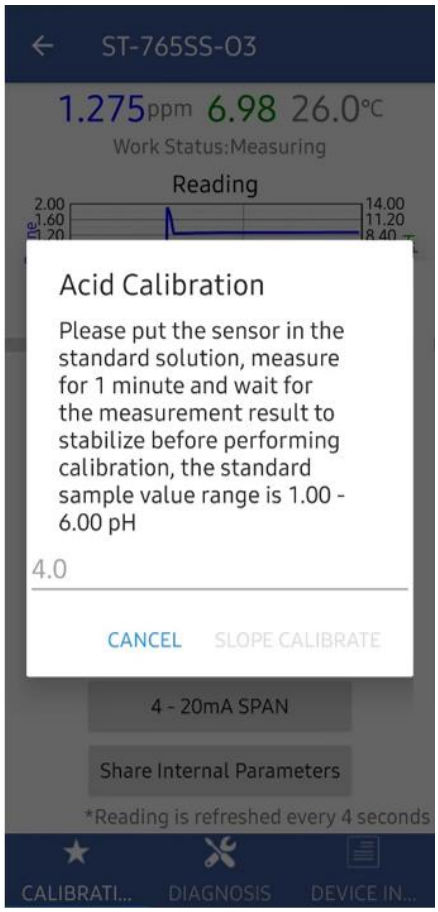


Figure 8
Enter Low-pH Concentration for Calibration

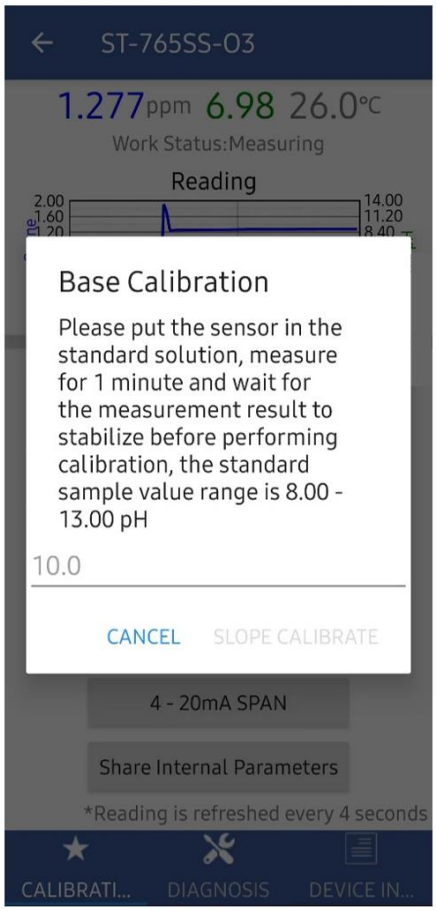


Figure 9
Enter High-pH Concentration for Calibration

4.1.3 4-20mA Span

The 4–20mA output of the ST-765SS-O3 sensor is scaled as:

- Ozone:
  - 4 mA = 0 ppm
  - 20 mA = 2 ppm

Tap **4-20mA SPAN** to change the Ozone value corresponding to the 20mA output to a lower value as seen in *Figure 10*. ***NOTE*** The 4-20mA Span feature allows users to REDUCE the upper 20mA output scale only. You cannot INCREASE the upper limit of the sensor beyond the range of the sensor.

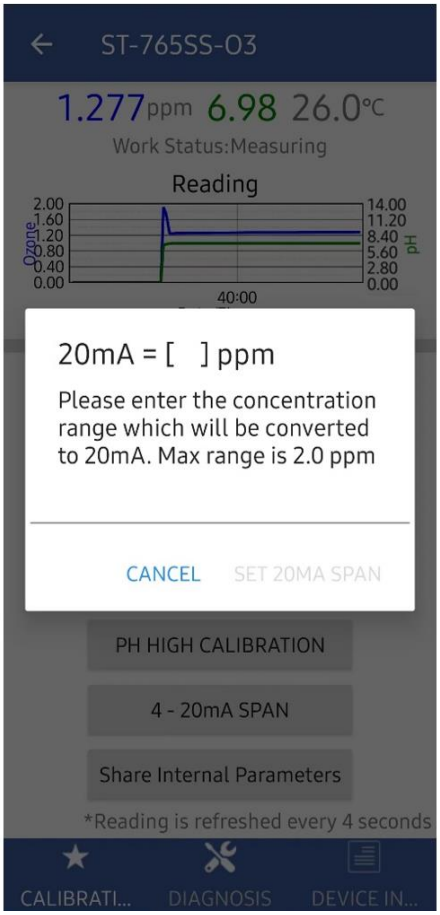


Figure 10 – Adjust 20mA Setting for Ozone (<2ppm)

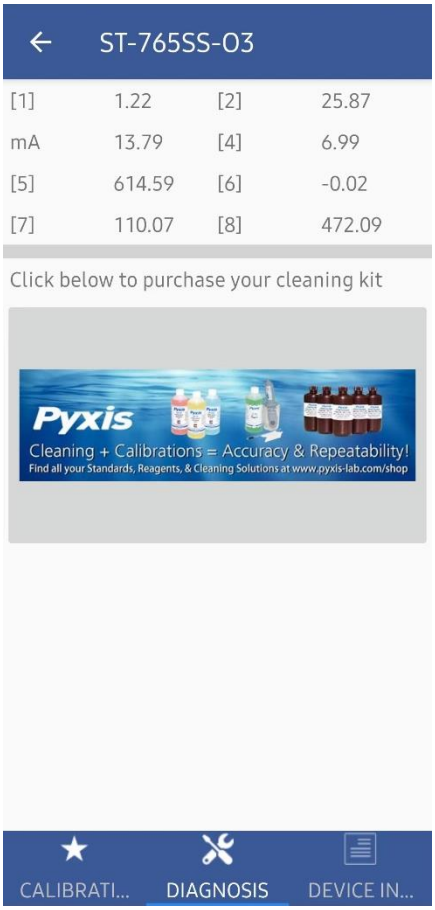


Figure 11 - Diagnostic Interface

4.1.4 Diagnosis

Tap **Diagnosis** in the bottom of the app page to launch the diagnosis page *Figure 11*.

In this page, the raw data measured by the sensor is displayed. To help troubleshooting possible issues with the sensor, please save images of these data when the sensor is respectively placed in a clean water (tap water or deionized water), in a pH standard solution, and in the sample that the sensor is intended for. This data may be exported from the uPyxis APP via email to service@pyxis- lab.com for technical support.

4.2 Calibration and Diagnosis by uPyxis Desktop App

1) Download and install uPyxis Desktop APP from

https://upyxis.pyxis-lab.com.cn/release/pc/uPyxis.Setup-latest.zip

2) Connect a USB Type-C cable to the port at the bottom of the MA-CR and to the USB port of the laptop or computer. This will provide power the MA-CR from the laptop/computer. Connect the MA-CR to the ST-765SS-O3 sensor. The MA-CR Bluetooth adapter will boost the 5V of the regular USB to 24V to power the sensor for use with uPyxis Desktop.

MA-CR Bluetooth Adapter – Bottom USB-C

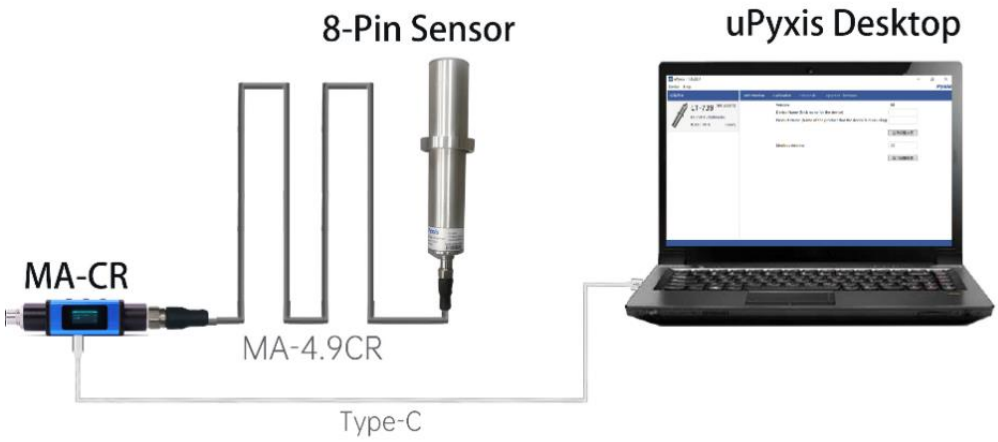


Figure 12 – MA-CR Connected to Sensor & Laptop

3) Set the MA-CR to operate in USB Mode by following the steps below.

   a. Once the MA-CR screen is powered Press ◀ or ▶ until you arrive at (USB to RS485) screen.
   b. Press the **OK** Button.
   c. Follow Prompts below to Enable USB feature. Once enabled, you may connect to uPyxis.

4) Open the desktop uPyxis APP.
5) Click Device to launch the connection option menu.
6) Select Connect via USB-RS485 (*Figure 13*).
7) Select the Comm Port to make a connection. Normally only one Comm port is identified by uPyxis (*Figure 14).* If more than one Comm port listed in the selection dropdown, you may try to select each one to see if a connection can be made. Alternatively, you may use the Windows Device Manager to identify the Comm Port that the Pyxis USB adapter is using.

After the connection is established, the ST-765SS sensor series number and Ozone reading will be displayed on the left of the information page *Figure 15*. In this page, a nickname can be assigned to the sensor. The sensor Modbus address can also be changed if desired. Click Calibration to launch the calibration page *Figure 16*.

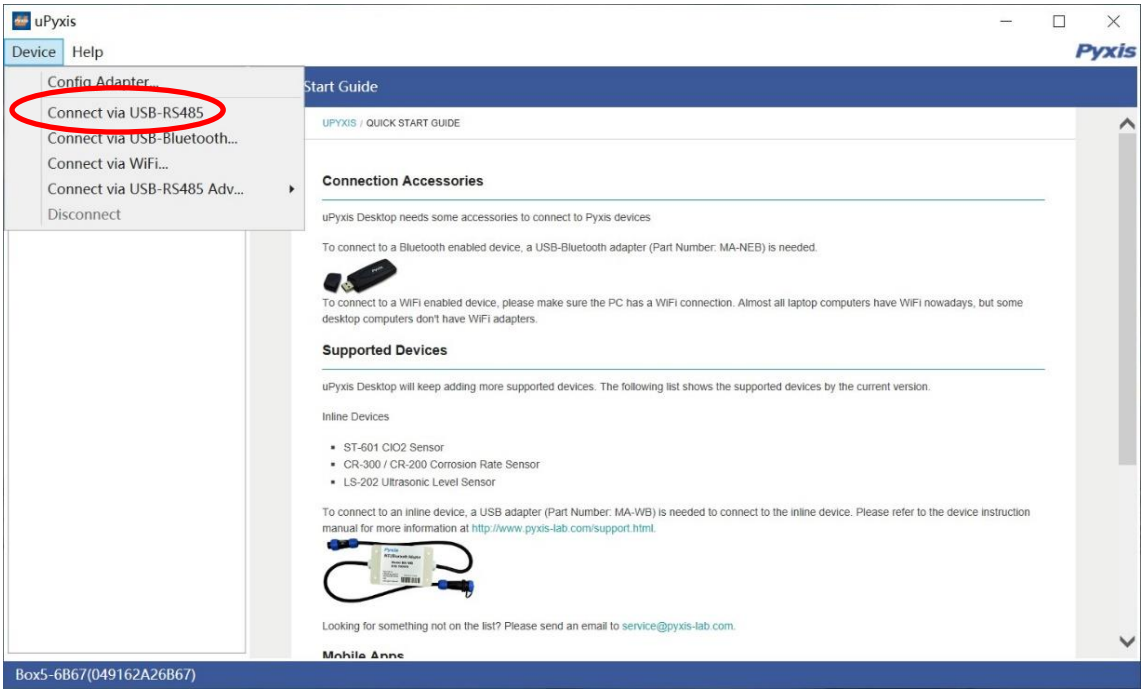


Figure 13 - Connection Options

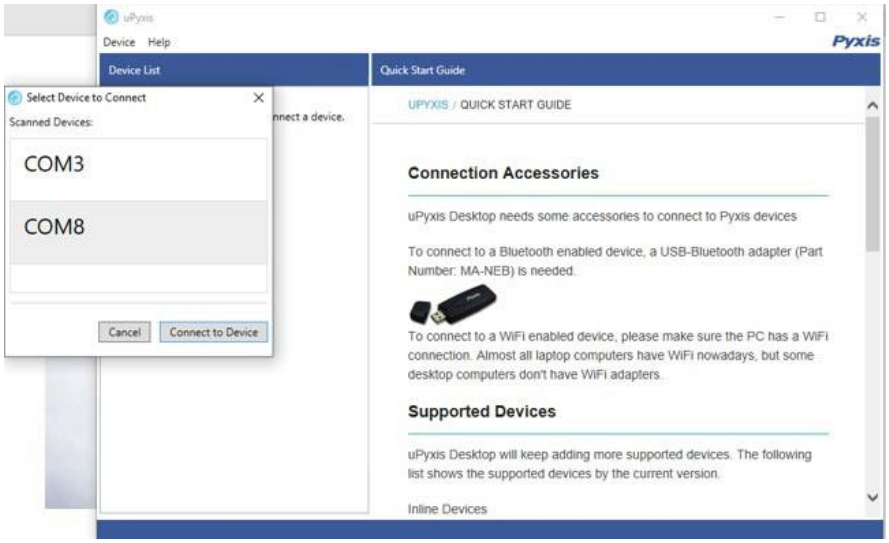


Figure 14 - Select a Comm port

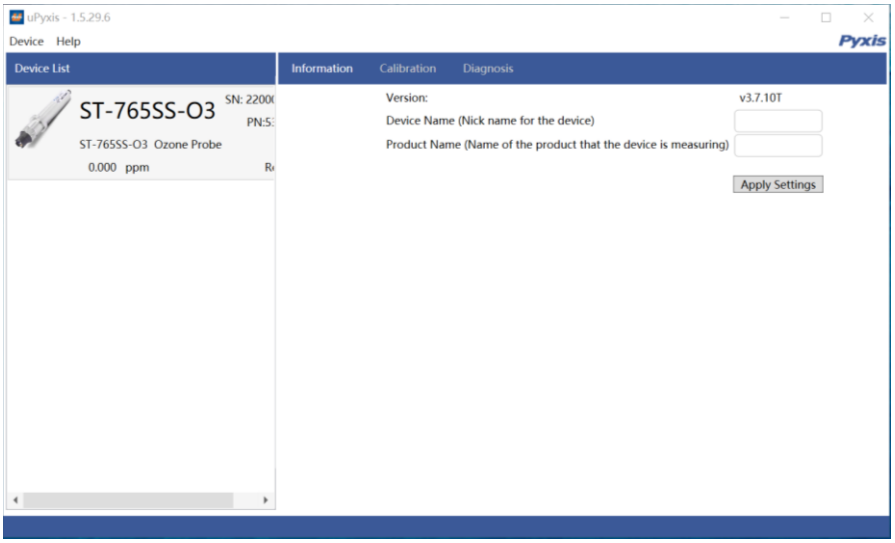


Figure 15 - Connected to ST-765SS-O3 sensor and information page

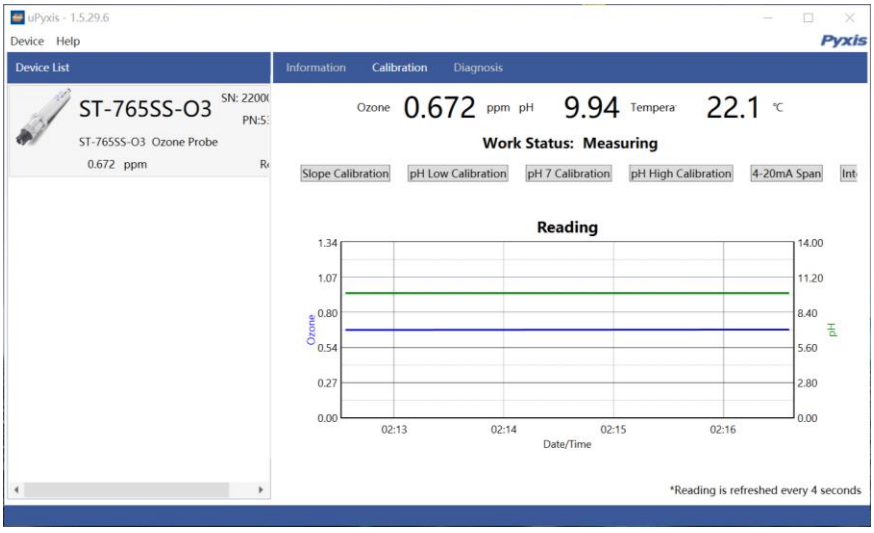


Figure 16 - Calibration Page

4.2.1 Ozone Calibration

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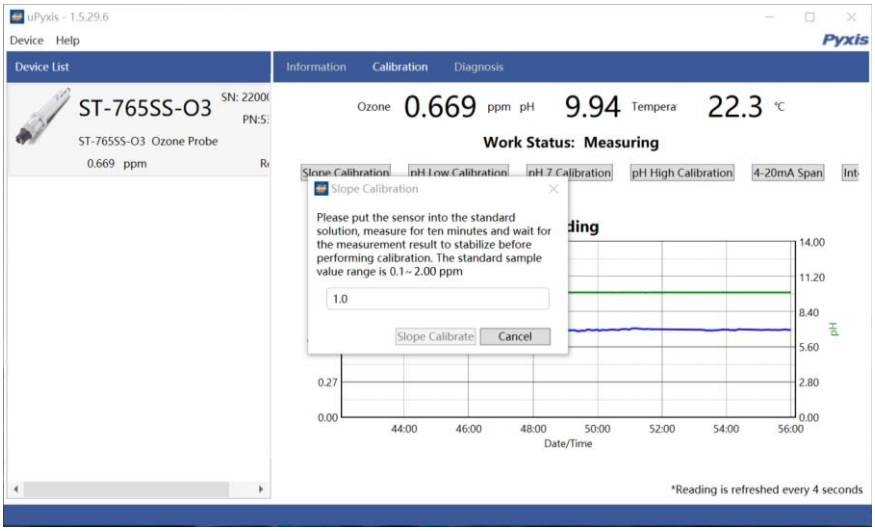


Figure 17 - Slope Calibration

4.2.2 pH Calibration

Remove and place the sensor in a low pH (i.e.. 4.0) calibration standard solution and tap **pH LOW CALIBRATION** in the uPyxis app. Measure for 1 minute and wait for the measurement result to stabilize before performing calibration, the low pH calibration standard value range acceptable for this step is 1.00-6.00 pH.

Place the sensor into the pH 7.0 calibration standard solution and tap **pH 7 CALIBRATION** in the uPyxis app. Measure for 1 minute and wait for the measurement result to stabilize before performing calibration. Place the sensor in a high pH (i.e.. 10.0) calibration standard solution and tap **pH HIGH CALIBRATION** in the uPyxis app. Measure for 1 minute and wait for the measurement result to stabilize before performing calibration, the high pH calibration standard value range acceptable for this step is 8.00-13.00 pH.

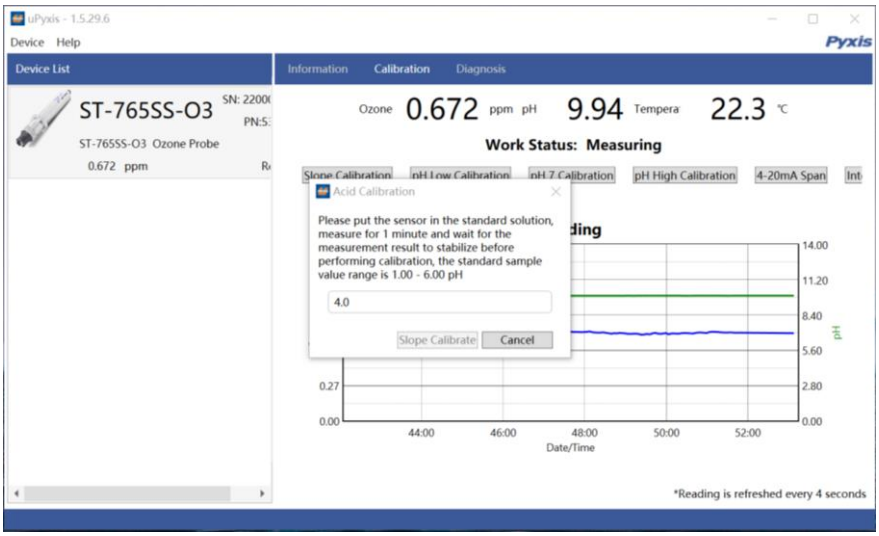


Figure 18 - pH Low Calibration

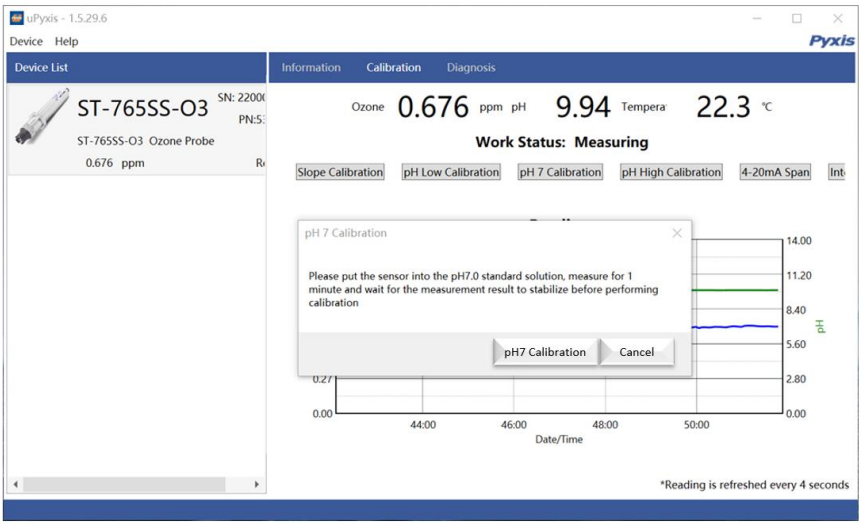


Figure 19 - pH 7 Calibration

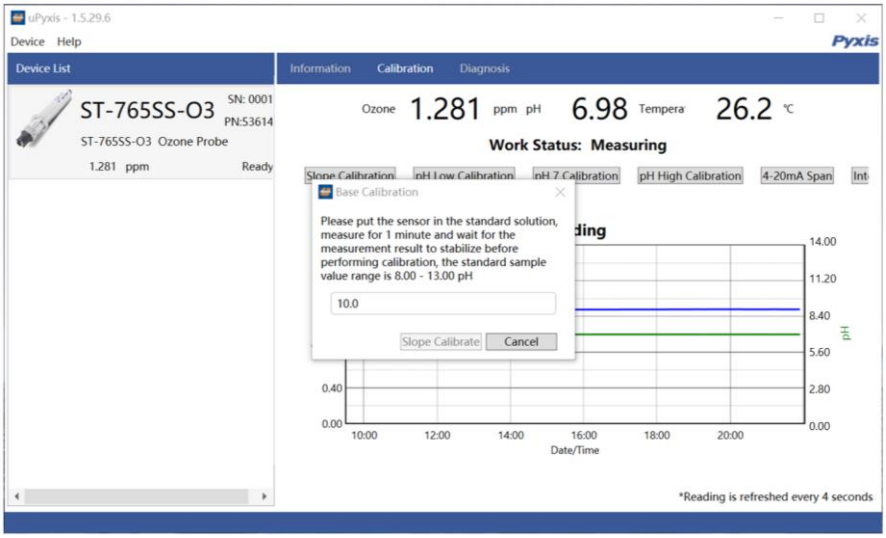


Figure 20 - pH High Calibration

4.2.3 4-20mA Span

The 4–20mA output of the ST-765SS-O3 sensor is scaled as:

- Ozone:
  - 4 mA = 0 ppm
  - 20 mA = 2 ppm

Tap **4-20mA SPAN** to change the Ozone value corresponding to the 20mA output to a lower value as seen in *Figure 20*. ***NOTE*** The 4-20mA Span feature allows users to REDUCE the upper 20mA output scale only. You cannot INCREASE the upper limit of the sensor beyond the range of the sensor.

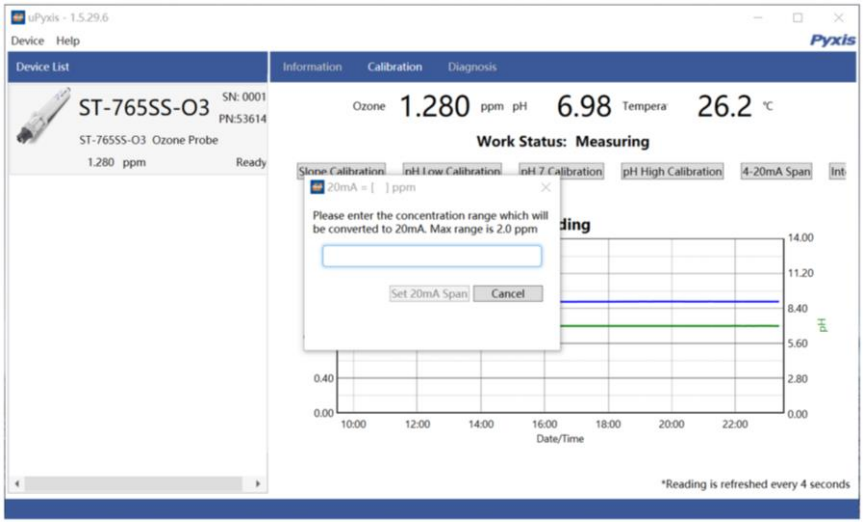


Figure 21 Set 4-20mA Span

4.2.4 Diagnosis

Tap **Diagnosis** in the bottom of the app page to launch the diagnosis page *Figure 22*. In this page, the raw data measured by the sensor is displayed. To help troubleshooting possible issues with the sensor, please save images of these data when the sensor is respectively placed in a clean water (tap water or deionized water), in a pH standard solution, and in the sample that the sensor is intended for. This data may be exported from the uPyxis APP via email to service@pyxis-lab.com for technical support.

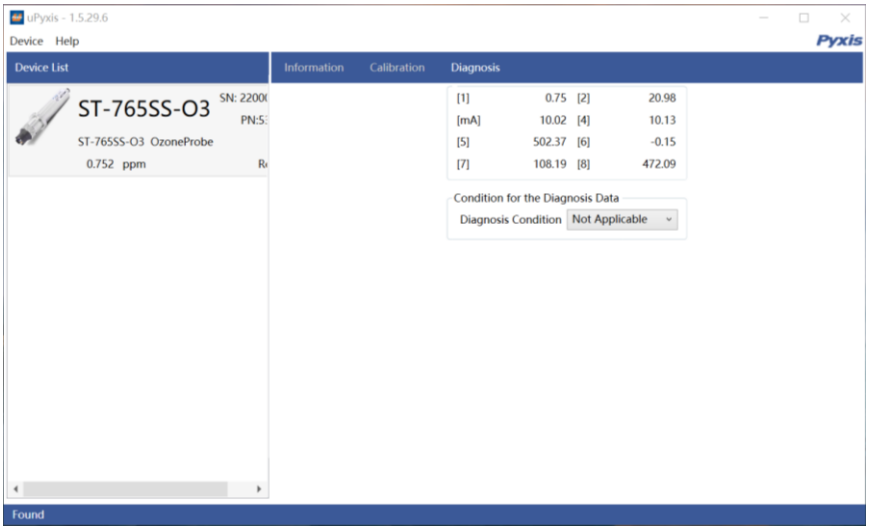


Figure 22 - Diagnostic Interface

5. Calibration on the Controller

It is recommended that the ST-765SS Series calibration be carried out using the uPyxis app as demonstrated in the sections above. Alternatively, a single point calibration can be carried on the controller by adjusting the mA-to-ppm ratio (Ozone). However, if calibration is to be performed via the controller, it must be cleaned with deionized water prior to calibration, taking care to avoid direct hand contact with the electrodes. Please follow the controller manufacturer's procedures for 4-20mA calibration as with any sensor. With the default sensor settings, the controller should be set to convert 4 mA to 0 ppm and 20 mA to 2.00 ppm for ST-765SS-O3. Calibration of the ST-765SS-O3 sensor for ozone should be done with the sensor inline exposed to active flowing sample water. Use a portable or laboratory colorimeter (i.e.. Pyxis SP-200 / SP-800 / SP-910 or similar) to test the active (flowing) water sample in the flow tee assembly of the IK-765SS-O3 panel.

6. Modbus RTU

The ST-765SS-O3 Series sensors are configured as a Modbus slave device. In addition to the ppm Ozone, many operational parameters, including warning and error messages, are available via a Modbus RTU connection. Contact Pyxis Lab Customer Service (service@pyxis-lab.com) for more information.

7. Sensor Cleaning and Maintenance

Soak the lower half of the sensor in 100 mL inline sensor cleaning solution for 10-15 minutes. Gently rub the sensor electrode head with the provided Q-tips. If the surface is not entirely clean, continue to soak the sensor for an additional time until clean. Rinse the sensor with distilled water. Pyxis Lab Inline Sensor Cleaning Solution can be purchased at our online Estore/Catalog at https://www.pyxis-lab.com/product/inline-sensor-cleaning-kit/

Figure 23 ST-Series Probe Cleaning Kit (P/N SER-01)

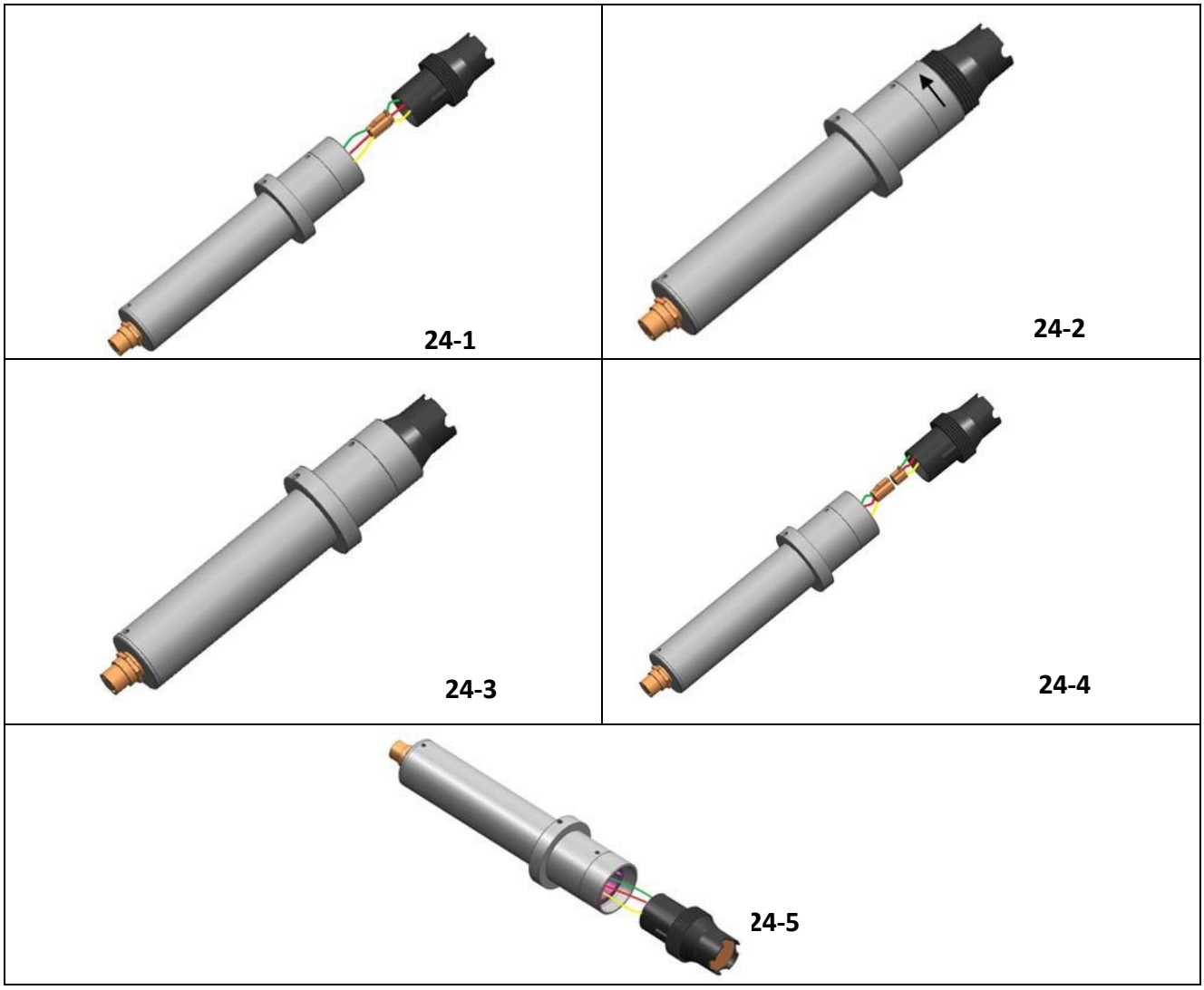
7.1 Other Common Troubleshooting Issues

If the ST-765SS sensor output signal is not stable and fluctuates significantly, make an additional solution ground connection–connect the black ground wire to a conductor that contacts the sample water electrically such as a brass pipe adjacent to the ST-765SS.

8. Replacing pH and Oxidizer Electrode Head

The pH/oxidizer electrode head of ST-765SS Series can be replaced when the original electrode head reaches its working life. The typical working life of the electrode can be as long as 2-years under normal operating conditions. Order a replacement electrode head EH-765 (P/N 53061) from Pyxis and follow instructions as below.

1) Turn off the sensor if it is powered on and make sure there is no water on the sensor.
2) Hold the ST-765SS main body with one hand and use the other hand to twist the stainless-steel locking ring counter-clockwise until the front end of the black electrode is completely unscrewed, as shown in *Figure 24-2*.
3) Pull out the electrode head as shown in *Figure 24-3*.
4) Loosen the electrode plug connector and remove the electrode head, as show in *Figure 24-4*.
5) To assemble the new electrode head, connect the plug, then insert the new electrode head into the main sensor housing and ensure that the two protrusions on the electrode head are aligned with the notches in the sensor main housing.
6) Then twist the stainless-steel lock ring of ST-765SS in a clockwise direction until the threads of the electrode head completely enter the ST-765SS housing as shown in *Figure 24-1*.



24-1

24-2

24-3

24-4

24-5

9. Contact Us

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