

# ST-765SS-SO3

## Inline pH + Sulfite Sensor for Chlorine/Oxygen Scavenger

### Description

The Pyxis ST-765SS-SO3 is a stainless-steel multi-parameter membrane-less sensor based on unique electrochemical principles to determine Sulfite plus pH and temperature of water. This sensor incorporates Pyxis' advanced technology in the field of bare-gold electrochemical detection. The ST-765SS-SO3 can simultaneously compensate for temperature and pH in the measurement of Sulfite based on real-time conditions present in the application of use. This unique internal compensation results in a highly accurate sulfite measurement consistent with wet chemistry methodology commonly used for measurement of oxygen or oxidizer scavengers.

The ST-765SS-SO3 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-SO3 makes this platform less prone to contamination or fouling and is easy to clean. The ST-765SS-SO3 sensor body is composed of 304 stainless steel and is well suited for aggressive environments.

The ST-765SS-SO3 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 Sulfite, pH and temperature with one sensor equipped with fully integrated 2x 4-20mA and RS-485 Modbus outputs. ST-765SS-SO3 is uniquely designed for rapid and precise monitoring of oxygen or oxidizer scavengers in water and process related applications.

### Key Features

- Real-Time pH + Sulfite (0-5ppm) Detection (*uPyxis Adjustable to 100ppm Max*)
- Dual 4-20mA Outputs (Sulfite + 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 Sulfite Value
- Replaceable EH-765 Reference Electrode Assembly – Simple Maintenance



**ST-765SS-SO3**  
Sulfite + pH Sensor



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

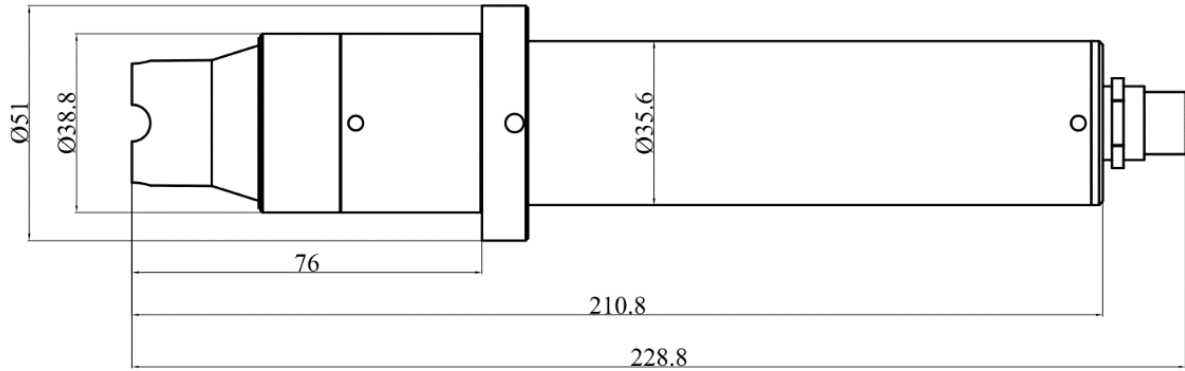
### Common Applications

- RO Feedwater Chlorine Removal
- Wastewater Effluent Chlorine Removal (*when used with FR-300-PLUS*)
- Boiler Feedwater & Blowdown Oxygen Scavenger Monitoring

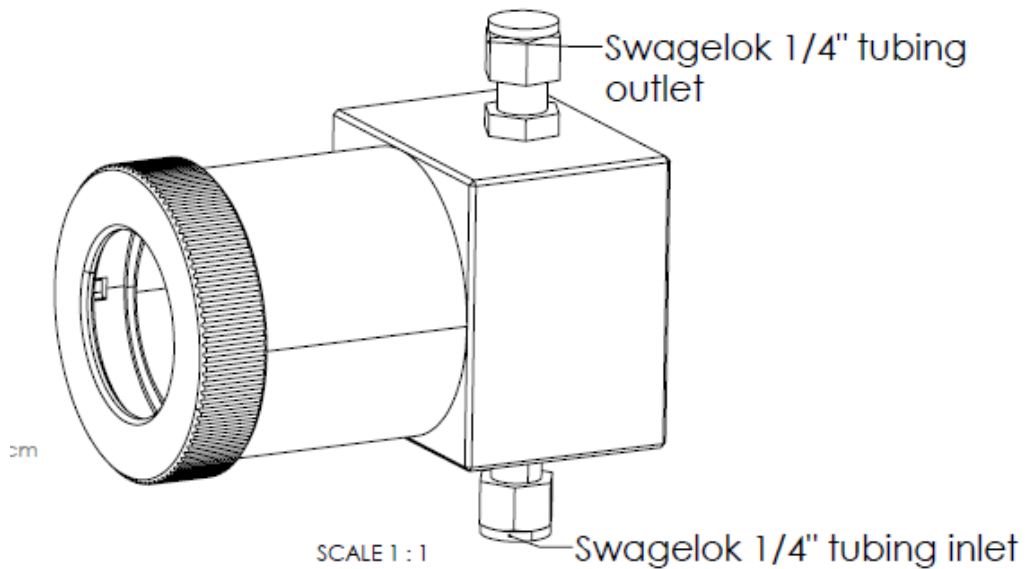
### Specifications

Item	ST-765SS-SO3
P/N	53624
Sensor Body Material	304SS
Sulfite Standard Range	0.00-5.00 ppm Sulfite <i>(Factory Standard Range – Adjustable via uPyxis)</i>
Sulfite Precision	± 0.01mg/L or 1% of the value w/pH compensation up to 9.0+
Sulfite Maximum Range	0-100 ppm Sulfite <i>(Adjustable via uPyxis 4-20mA SPAN ADJUST)</i>
Sulfite Maximum Precision	± 1 mg/L or 1% when in MAX SPAN Mode
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 <i>(Sold Separately)</i>
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 Reducing Species
Compliance	EPA 334.0 / ISO 7393
Regulation	CE Marked / RoHS
Cables Included	MA-4.9CR Cable (8Pin Adapters – 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

Dimensions of ST-765SS-SO3 (mm)



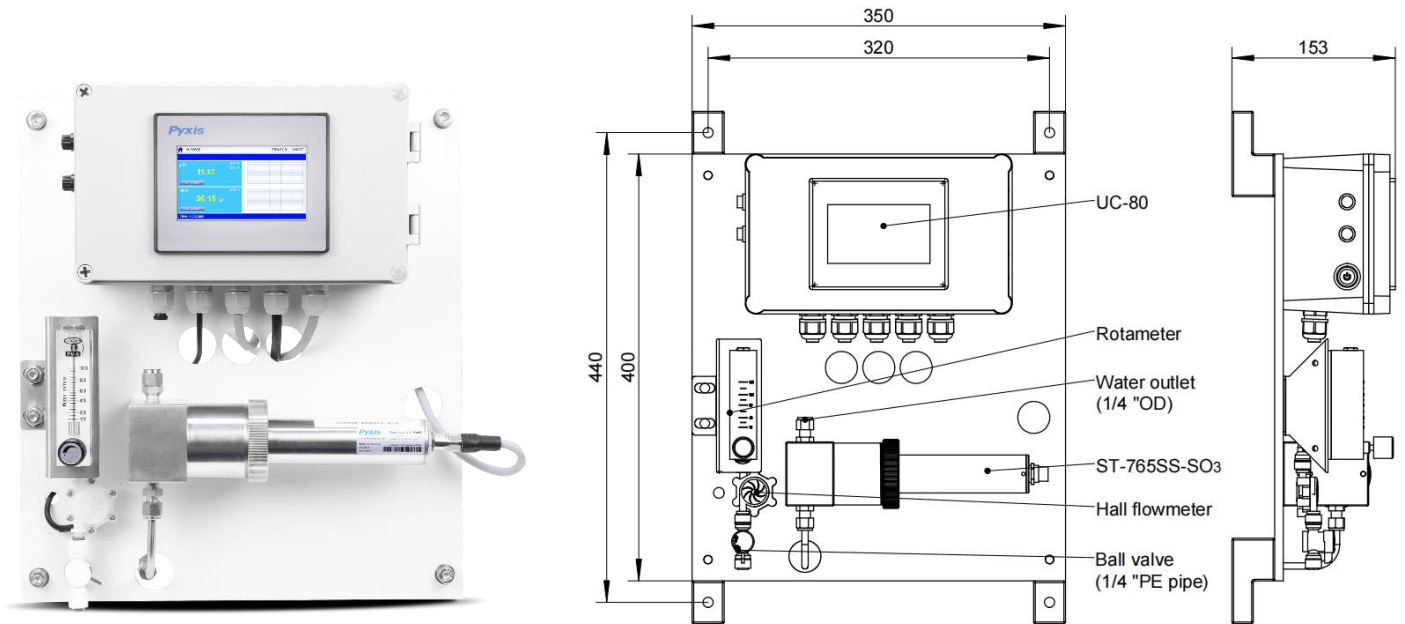
Dimensions of ST-007 Stainless Steel Flow Cell Assembly for ST-765SS-SO3 (mm)



### IK-765SS-SO3 Sulfite + pH + Temperature Online Monitoring Panel

The IK-765SS-SO3 is a pre-assembled Sulfite + pH + Temperature monitoring panel consisting of the ST-765SS-SO3 (Sulfite) sensor with mounted ST-007 stainless steel flow cell with rotameter and hall effect flow meter, connected to the UC-80 Display + Data Logging Terminal. These platform solutions offer real-time display, data logging and signal output capability of sample Sulfite, 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. When any Pyxis Lab sensor is connected to the UC-80 in RS-485 Modbus, the UC-80 automatically recognizes the sensor and configuration for immediate data display, data logging and communication. The user may also configure and calibrate the output signal through the UC-80 controller's screen. **\*NOTE\*** For boiler feedwater and blowdown sulfite measurement, the IK-765SS-SO3 panel must be installed downstream of a sample cooler.

Item	P/N	Description
IK-765SS-SO3	42163	ST-765SS-SO3 Sensor + ST-007 Flow Cell + UC-80 Display/Data Logger

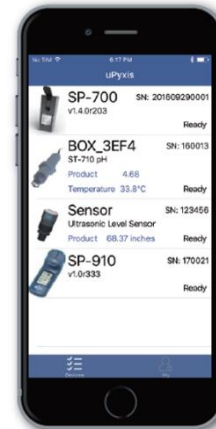


### uPyxis Mobile & Desktop APPS for Wireless Setup, Diagnostics & Calibration

The uPyxis APP manages all Pyxis portable meter and inline sensors on mobile and desktop devices, including Apple iPhones and Samsung Android smartphones. When connected to the Pyxis ST-765SS Series inline sensors, the uPyxis APP enables users to conduct a wireless probe calibration of pH and oxidizer or sulfite from the touch of their smart device. The uPyxis direct calibration of the sensor eliminates unnecessary time wasted with calibrating the probe through the receiving controller and ensures the highest degree of accuracy and minimizes time spent in the field.

**\*NOTE\*** The uPyxis Mobile APP is evolving rapidly and users can find the latest version at no cost on Apple iStore or Google Play. The uPyxis Desktop APP may be downloaded at <https://pyxis-lab.com/support-2/>

For wireless access to all Pyxis devices via uPyxis, users will require the inline Bluetooth Adapter (P/N: MA-CR). Details can be found in the Order Information section of this Data Sheet.



#### Order Information

ST-765SS-SO3 (304SS Inline Sulfite 0-5.0ppm with Adjustable Max of 100ppm)

P/N

53624

#### Optional-Replacement Accessories

EH-765 (ST-765SS Replacement Reference Electrode Assembly)

53061

ST-007 (Optional Stainless Steel Flow Cell for ST-765SS Series)

50700-A51

FR-300-PLUS (Optional Auto-Brushing Flow Assembly For Dirty Water Applications)

50700-A44

MA-CR Bluetooth Adapter (Optional 8-Pin Bluetooth Adapter for use with uPyxis APP)

MA-CR

UC-80 Display + Data Logging Terminal

14003

IK-765SS-SO3 (Sulfite + pH + Temperature Analyzer)

42163

SP-800 (Multi-Parameter Colorimeter)

50610