

## ST-600 Series Inline Disinfection + Temperature Sensors

### Product Description

The Pyxis ST-600 Series inline sensors are designed for use in qualitative measurement of real-time mass/mass concentration of Chlorine in Sodium Hypochlorite from manufactured liquid chemical concentrate (bleach) or diluted liquid through electrolysis, as well as in-situ Chlorine Dioxide (ClO<sub>2</sub>) generation. Unlike typical amperometric sensors for disinfection liquids in ppm level, the ST-600 Series inline probes directly measure the optical density of the Bleach or Chlorine Dioxide solution in percentage (%) levels without dilution using a UV light source. The ST-600 Series probes have a built-in reference light source and a reference light detector in addition to the main light source and main light detector. This configuration ensures a long-term stable measurement of the disinfectant concentration. These sensors are factory calibrated using ultra-pure solutions of Sodium Hypochlorite and Chlorine Dioxide by Pyxis Lab Inc. Raw material qualities vary globally and as such field calibration may be required by the user to adjust for lower quality raw material used in the point of application.

These probes feature an expanded detection range and an RTD temperature compensated output signal, allowing the user to measure higher temperature compensated concentrations of industrial Bleach / ClO<sub>2</sub> respectively while obtaining a sample temperature measurement. This feature is highly valuable in compensating for the impact of atmospheric temperature conditions on oxidant solution concentration readings. Pyxis Lab's unique sensor and optical channel design enables these sensors to be installed in both direct contact and non-contact applications. For high volume chemical streams, the ST-001 inline Tee assembly 3/4" NPT is utilized. For low flow chemical applications the clear Teflon Tubing 1/4" OD may be used to pass through the sensor optical channel for direct concentration measurement.

### Typical Applications

- Hypochlorite through Electrolysis Generation (ST-604)
- Chlorine Dioxide Generation (ST-601)
- Monochloramine Generation Precursor (ST-600)
- Primary/Secondary Disinfection/Commercial/Industrial
- Pulp & Paper



## Features

- Break-through technology measures disinfection liquids from low to high concentration
- Direct read technology without dilution or reagent.
- Long maintenance and calibration cycle – 6 months typical.
- Convenient ¾" NPT Inline Tee installation (ST-001) for Large Pump Suction Side
- Convenient ¼" Teflon Tubing Installation for Small Pump Discharge Side
- Probe Cleanliness Diagnostics via uPyxis and Modbus
- Wireless Calibration via uPyxis Mobile or Desktop APP
- Expanded Concentration Range
- Temperature Compensation (RTD) of Oxidant Concentration and Temperature Output Signal

## Specifications

Item	ST-600	ST-601	ST-604
<b>P/N</b>	50231	50232	50233
<b>Target</b>	% Chlorine in Bleach	% ClO <sub>2</sub> in Bleach	% Chlorine in Bleach
<b>Typical Application</b>	Liquid Concentrate	Produced ClO <sub>2</sub> Solution	Electrolysis Effluent
<b>Output Range</b>	0.01–16.0% mass/mass	0.01–0.35% mass/mass	0.01–2.00% mass/mass
<b>Temp. Output Range</b>	4mA: 0 °C / 32 °F; 20mA: 100 °C / 212 °F		
<b>Resolution</b>	0.01 in Percentage		
<b>Accuracy</b>	±2% or 0.1 percentage, whichever is greater		
<b>Method</b>	UV Absorbance		
<b>Power Supply</b>	22–26VDC, 2W		
<b>Outputs</b>	Isolated (2) 4–20mA Analog & Isolated RS-485 Modbus		
<b>Dimension</b>	6.8in L, 1.44in D		
<b>Weight</b>	0.37lbs		
<b>Installation</b>	¼" OD (6.4 mm) Clear Teflon tubing passed through sensor optical channel or Tee ¾" CPVC		
<b>Material</b>	UPVC		
<b>Pressure</b>	Up to 100psi (6.9Bar)		
<b>Temperature</b>	Operating: 4–49 °C (40–120 °F); Storage: -7–60 °C (20–140 °F)		
<b>Cable Length</b>	5ft Bulkhead with IP67 Adapter; 1.5ft Flying Lead with IP67 Adapter; Other Cables Available		
<b>Calibration</b>	Two-Point calibration against standard solutions		
<b>Rating</b>	IP67		
<b>Regulation</b>	CE/RoHS		

**\*NOTE\*** The ST-600 series sensors are manufactured with an optical channel composed of compression installed quartz tubing with ¼" Inner Diameter. This optical channel material is not designed to withstand extreme caustic content outside of global industrial bleach quality specifications. For applications requiring exposure of the sensor to extreme caustic content, the ¼" OD Clear Teflon Tubing Installation is recommended. This method eliminates chemical from touching the optical channel.

## Order Information

ST-600 Inline Bleach Concentration Sensor (0–16% + Temp.)

50231

ST-601 Inline Chlorine Dioxide Concentration Sensor (0–0.35% + Temp.)

50232

ST-604 Inline Bleach Concentration Sensor (0–2% + Temp.)

50233

## Optional Accessories

MA-WB Bluetooth® Adapter

MA-WB

PowerPACK-1 Single Channel Auxiliary Power Supply with Bluetooth®

MA-BLE-1

Inline Sensor Cleaning Kit

SER-01

## Part Number

### *uPyxis® Diagnosis, Calibration & Historical Data Transfer*

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-600 series inline sensors, the uPyxis APP enables users to conduct a wireless probe cleanliness diagnostics and calibration. This unique feature conducts an internal assessment of the sensor cleanliness condition within 5-seconds allowing the user to determine if the probe is need of cleaning prior to calibration. Once cleaned, the user can proceed to conducting a wireless 2 -point calibration of the ST-600 series sensor via the uPyxis APP all from the touch of their smart device. The uPyxis direct diagnosis and calibration of the sensor itself eliminates unnecessary time wasted with calibrating the probe through the receiving controller and ensures the highest degree of accuracy. When connected in RS-485 Modbus format, Pyxis Lab can provide the user with Cleanliness Diagnostics register data enabling users to utilize this unique sensor function within their own controller.

***Contact [service@pyxislab.com](mailto:service@pyxislab.com) for Support...***

