

ST-588

PTSA and Fluorescent Polymer Dual Inline Sensor

For Industrial Cooling Water Applications

Description

The new ST-588 inline sensor is a proprietary design for the direct measurement of both PTSA (365nm ex/ 410nm em) and “Fluorescent Polymer” (410nm ex / 450nm em) for use in industrial cooling water and process treatment applications. Through significant research and development, Pyxis Lab has developed the ST-588 combination inline sensor to independently measure both PTSA on a present scale of 0-200ppb (*500 ppb capable*) and Fluorescent Polymer on a scale of 0-20ppm. Customized scales are also available on request.

The ST-588 offers Pyxis proprietary algorithms to determine the concentrations of PTSA and active polymer residual simultaneously while measuring sample turbidity and color in highly contaminated waters (ie. ≤ 150 NTU and 10 ppm Fe) for internal compensation. The ST-588 offers a combination of dual (2x) 4-20mA as well as RS-485 Modbus output signals, one for PTSA and one for Fluorescent Polymer. The ST-588 is Bluetooth Enabled for wireless cleanliness diagnostics and calibration when used with MA-CR Bluetooth or PowerPACK Series Bluetooth Adapters and the uPyxis APP for Mobile or Desktop devices. The ST-588 is provided in CPVC with the standard Pyxis ST-001 inline $\frac{3}{4}$ " FNPT Tee assembly, 5-foot bulk-head cable with quick adapter and 1.5ft flying lead cable with quick adapter, enabling rapid wiring to any microprocessor controller, PLC or DCS system. The ST-588SS is offered in 304L Stainless Steel with $\frac{3}{4}$ " FNPT ports for high pressure applications.



Figure 1 - ST-588 and ST-588SS Inline PTSA & Fluorescent Polymer Combination Sensors

Specifications

Item	ST-588	ST-588SS
P/N	50692	50693
PTSA	0.0 – 200.0 ppb (500 ppb capable by uPyxis)	
Fluorescent Polymer*	0.0 – 20.0ppm	
Precision	+/- 0.1 ppm (3 Sigma)	
Excitation/Emission	Dual Measurement - 365/410nm & 410/450nm	
Power Supply	22 – 26V DC, Power Consumption – 2W	
Outputs	Isolated 2x 4 – 20 mA Analog Outputs & Isolated RS-485 Digital Output -8Pin	
Installation	ST-001 Inline Tee (provided) ¼" FNPT Socket & Thread	¾" FNPT Threading
Weight	170 g (0.37lbs)	1,148 g (2.5lbs)
Operational Pressure	100 psi (6.9 Bar)	290 psi (20 Bar)
Operating Temperature	4 °C – 40 °C (40 – 104 °F)	
Storage Temperature	-7 °C – 60 °C (20 – 140 °F)	
Wet Material	Quartz & UPVC	Quartz & Stainless Steel
Rating	IP67, Fully Dustproof & Waterproof	
Regulation	CE Marked	
Dimension (L x W x H)	Length 6.8 inch (172.7 mm), body diameter 1.44 Inch (36.6 mm)	
Cable Length	5 feet, terminated w/IP67 adapter + 1.5 feet flying lead w/IP67 adapters	

*The fluorescent polymer concentration scale is based on the polymer containing 0.25 mole % fluorescent monomer. Typical polymer specifications are attached below but may vary by producer.

Optional Accessories Information

P/N

SP-380P Handheld Dual Fluorometer (PTSA & Fluorescent Polymer)	50403
MA-CR Bluetooth Adapter (Pyxis Bluetooth Adapter for 8Pin Pyxis Sensors)	MA-CR
PowerPACK-1 (Single Chanel Auxiliary Power Supply w/Bluetooth For Pyxis Sensors)	MA-BLE-1
PowerPACK-4 (Four Chanel Auxiliary Power Supply w/Bluetooth For Pyxis Sensors)	MA-BLE-4
MA-NEB Bluetooth/USB Adapter (Enables Bluetooth for Desktop and uPyxis APP)	MA-NEB
Pyxis ST/LT Series Sensor Cleaning Kit (Includes Sensor Cleaner 500mL + Accessories)	SER-02
Pyxis PTAG-1010 (PTSA 100ppb / Fluorescent Polymer 10ppm Combination Std – 500mL)	21055
Pyxis TAG-10 (Fluorescent Polymer Calibration Standard – 10ppm/500mL)	21054
Pyxis TAG-20 (Fluorescent Polymer Calibration Standard – 20ppm/500mL)	21053
Pyxis PTSA-100 (PTSA Calibration Standard – 100ppb/500mL)	21001
MA-10CR (10' Extension Cable for 8Pin Pyxis Sensors)	50741
MA-50CR (50' Extension Cable for 8Pin Pyxis Sensors)	50743

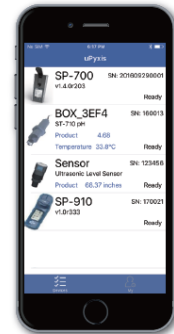
Cleaning and Calibration

Pyxis Lab recommends cleaning and calibrating the ST-588 (PTSA and Fluorescent Polymer) inline sensor at a minimum frequency of once per month. For clean water applications this period may be increased. For heavily contaminated applications, diagnosis, cleaning and calibration may be considered more frequently. The ST-588 sensor contains internal hardware and algorithms that enable compensation of color and turbidity as well as sensor cleanliness diagnostics. When powered by and connected to the MA-CR (8Pin) or PowerPACK Series Bluetooth Adapter options, the ST-588 sensor can both be wirelessly accessed via Bluetooth from any mobile or desktop device using the **uPyxis APP**. The APP features a live graphical display of the sensors value outputs for both PTSA and Fluorescent Polymer, as well as a sensor cleanliness check and calibration function. The cleanliness check can be conducted rapidly to determine if a cleaning is required prior to sensor calibration. Once the sensor is properly cleaned it can be re-diagnosed to confirm the cleaning was effective and then calibrated with its Pyxis Calibration Standard (ie. PTSA-100, TAG-10 and TAG-20, or PTAG-1010 containing 100 ppb PTSA and 10 ppm tagged polymer). Contact service@pyxis-lab.com for support.

Instructional videos on this and other Pyxis devices can be found at



<https://www.youtube.com/channel/UC8RqYgnwL-Vzu2TRzraqrUw>



Calibration and diagnostics made easy with the uPyxis APP

