PyxisST-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 <u>both</u> 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. \leq 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 $\frac{34}{7}$ 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 $\frac{34}{7}$ FNPT ports for high pressure applications.



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

Specifications

ltem	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) ¾" FNPT Socket & Thread	¾" FNPT Threading					
Woight	170 g (0.37lbs)	1 149 g (2 Elbs)					
Weight		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 <u>service@pyxis-lab.com</u> for support.

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

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



Calibration and diagnostics made easy with the uPyxis APP

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