ST-587 Series Inline PTSA + Turbidity Sensors
For Industrial Cooling & Process Water Applications

Product Description

The Pyxis ST-587 Series inline fluorometer & turbidimeter sensor simultaneously measures the concentration of PTSA (Pyrenetetrasulfonic Acid, CAS# 59572-10-0) and Turbidity in water, utilizing both LED UV and Warm White light sources. PTSA is commonly used as a fluorescent tracer in cooling and process water treatment applications where turbidity measurement may be a key performance indicator and critical parameter to application efficacy. This unique Pyxis sensor platform is offered in both UPVC and 304-stainless steel material depending on application pressures. The SS (stainless steel) version of the sensor platform is ideally suited for high pressure water systems (>100psi / 20 Bar) while the UPVC version of the sensor platform are better suited for application pressures below (100psi / 6.9 Bar).

The ST-587 Series sensors can be connected to any device that accepts an isolated or non-isolated 4–20mA input or RS-485 Modbus input. The ST-587 Series sensor is a smart device. In addition to measuring PTSA, the ST-587 sensor has extra photo-electric components that measure the color and turbidity of the sample water. This extra feature allows automatic color and turbidity compensation to eliminate interference commonly experienced in real-world applications (as high as 150NTU) as well as in-situ sensor cleanliness diagnostic data. The ST-587 Series sensors have a short fluidic channel, are very easy to clean and are uniquely designed to overcome shortcomings associated with other fluorometers that have a distal (flat) sensor surface or a long, narrow fluidic cell. Traditional inline fluorometers are susceptible to color and turbidity interference and fouling and are difficult to properly clean and offer no cleanliness verification.

The Pyxis ST-587 Series sensors use a narrow wavelength band gallium phosphide photodiode and high temperature-tolerant and humidity-resistant optical filters. This combination greatly enhances the robustness of the probe. It can be operated under a wide range of ambient conditions without the need of humidity and temperature regulation. The performance of the ST-587 Series sensors can be stable and consistent for a long period of time. In addition, the ST-587 series sensors can be easily diagnosed, cleaned, and calibrated using the MA-CR Bluetooth/USB adapter and the uPyxis® mobile or desktop application.

Specifications

| Item	ST-587	ST-587SS
P/N	50906	58925
Installation	ST-001 Tee (Included) ¾in FNPT Socket & Thread	¾in FNPT Threading
Dimension	6.8 x 1.44in (172.7 x 36.6mm)	8.1 x 1.66in (206.1 x 45.1mm)
Weight	0.37lbs (170g)	2.5lbs (1148g)
Material	UPVC	304 Stainless Steel
Pressure	Up to 100psi (6.9Bar)	Up to 290psi (20Bar)
PTSA Range	0–500ppb	
PTSA Resolution	0.01ppb	
PTSA Accuracy	±1% of the Reading	
Turbidity Range	0–200NTU	
Turbidity Resolution	0.1NTU	
Turbidity Accuracy	±2% of the Reading	
PTSA Calibration	Single-Point or Two-Point Calibration against PTSA Standard Solution	
Turbidity Calibration	Single-Point or Two-Point Calibration against Turbidity Standard Solution	
Excitation of PTSA	365nm	
Emission of PTSA	410nm	
Turbidity Light Source	Warm White Light LED (EPA 180.1) - 90° Scatter "True Turbidity"	
Outputs	(2) 4–20mA Analog Outputs / RS-485 Digital Output - 8PIN	
Cable Length	1.5m 8-PIN Bulkhead w/ Adapter; 1.5m 8-PIN Flying Lead Cable w/ Adapter	
Power Supply	22–26VDC, ~2W Maximum at 20mA	
Operating Temp.	40–120 °F (4–49 °C)	
Storage Temp.	20–140 °F (-7–60 °C)	
Enclosure Rating	IP67	
Regulation	CE / RoHS / UKCA	

* Specifications subject to change without notice...

uPyxis® Diagnosis, Calibration & Historical Data Transfer

Pyxis Lab recommends cleaning and calibrating the ST-587 Series inline sensors 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-587 Series sensor contains internal hardware and algorithms that enable compensation of color and turbidity as well as sensor cleanliness diagnostics. When used with the MA-CR (8-Pin) or PowerPACK Series Bluetooth/USB Adapter options, the ST-587 Series sensor can both be accessed from any mobile or desktop device using the uPyxis 2.0 APP. The APP features a live graphical display of the sensors value outputs for PTSA and Turbidity 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 Standards (ie. PTSA-100-ppb and TURBIDITY-100-NTU).

Contact service@pyxislab.com for Customer Support...

ST-587 and Inline Tee Assembly Diagram (mm)
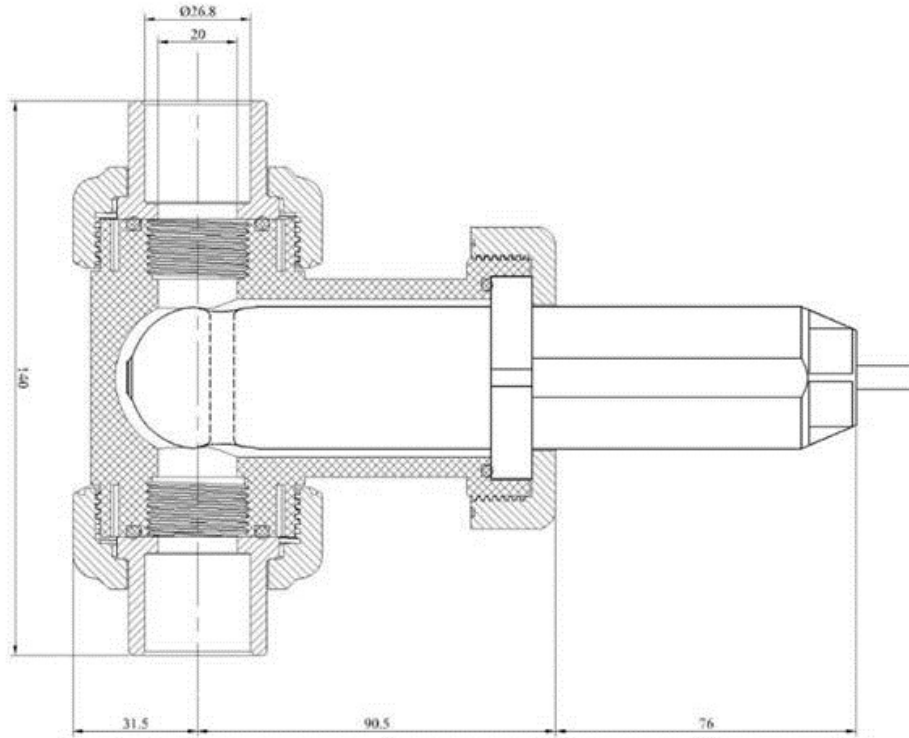
ST-587SS (mm)
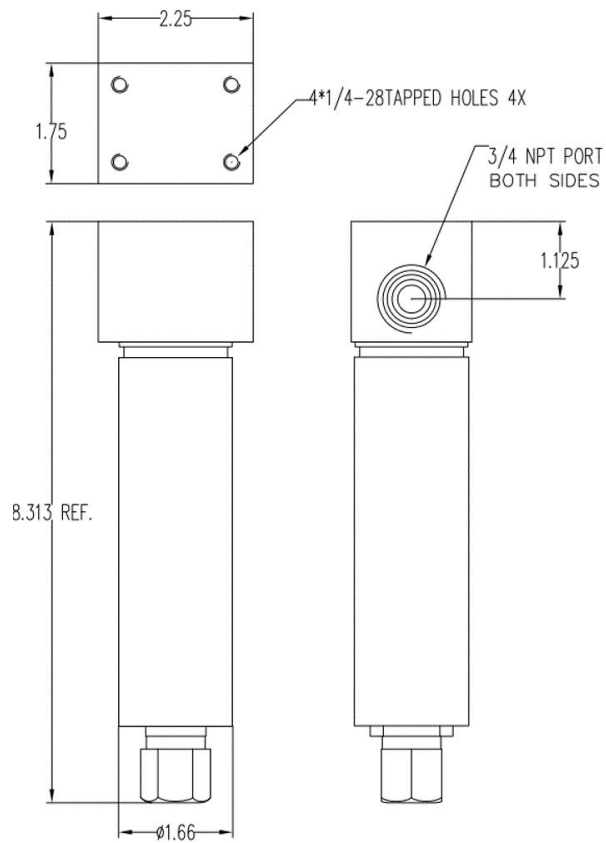
Order Information | Part Number

ST-587 PTSA + Turbidity Inline Sensor	50906
ST-587SS PTSA + Turbidity Inline Stainless Steel Sensor	58925

Accessory Information | Part Number

Pyxis Lab Sensor Cleaning Kit	SER-01
MA-CR Bluetooth® Adapter	MA-CR
PowerPACK-1 Single Channel Bluetooth® Auxiliary Box	MA-BLE-1
PowerPACK-4 Four Channel Bluetooth® Auxiliary Box	MA-BLE-4
CC-78M 8-PIN to 7-PIN Adapter	50771
MA-10CR 10' Extension Cable	50741
MA-50CR 50' Extension Cable	50743
PTSA-100 100ppb PTSA Calibration Standard Solution	21001
PTSA-200 200ppb PTSA Calibration Standard Solution	21000
PTSA-300 300ppb PTSA Calibration Standard Solution	21003
TURB-100 100NTU Turbidity Calibration Standard Solution	57010