

ST-710 Series

Inline Industrial pH & ORP Sensor

The Pyxis ST-700 series of pH and pH/ORP combined sensors are specifically designed to simplify installation, calibration and in-use operation in process water, industrial water, wastewater and cooling water applications. These sensors are uniquely designed to offer an embedded transmitter and can be utilized in both 4-20mA or RS-485 Modbus formats. When utilized in RS-485 Modbus format, these sensors also provide a temperature output signal. These features dramatically improve application possibilities allowing the ST-710 series of sensors to be directly connected to most OEM micro-processor-based controllers, PLC's and Distributed Control Systems.

The ST-710 series oversized platinum disk for ORP and the flat pH bubble sensing elements increase their resistance to highly turbid waters and contamination. The enlarged salt bridge design with large junction capacity also ensures a long sensor life with minimal maintenance. These devices are ideally suited for hard to measure waters where conventional pH & ORP sensors would have otherwise failed or required high maintenance costs. The ST-710 series of sensors do not require electrode change out or Potassium Chloride (KCl) re-fill and are designed to be used until end of life and completely swapped out. Each sensor offers a six-foot cable 7-Pin quick adapter as well as a 1.5-foot flying lead wire with 7-pin adapter for rapid installation and replacement. The ST-710 series are provided with the ST-001 Pyxis standard $\frac{3}{4}$ " NPT-CPVC installation Tee for in-line flow applications but may also be installed in submersed applications using the MA-102S Submersion Adapter Kit. Additionally, larger pipe size installation Tee's are available from Pyxis Lab.



ST-712
(Combination pH & ORP)



ST-710
(pH)



ST-711
(ORP)

Installation / Applications

- Industrial Process & Cooling Water
- Fresh / Brackish / Sea Water
- Raw / Influent Water
- Wastewater Effluent
- Surface Water / Storm Water

Features

- Dual embedded transmitters – 4~20mA and RS-485 supporting MODBUS, eliminating the need for pre-amplifier and enhanced robustness when the controller is away from the sample point
- Compact design for small footprint, ideally suited for industrial applications
- Tolerant to frozen conditions during shipment or storage for short periods
- Large junction capacity (compared to replaceable electrode design) leading to longer service life and less maintenance
- Stainless solution grounding point on sensor to stay away from ground loop problems
- Interfaces with Pyxis MA-WB wireless adapter or PowerPACK Auxiliary Box for Bluetooth access via **uPyxis APP** offering probe diagnostics and calibration by Smartphone and Desktop

Specifications

Items	ST-710 / ST-711 / ST-712
pH Range	0-14 Range with Auto Temperature Compensation with +/- 0.01 pH unit Precision
ORP Range	+/- 1,500 mV Range with +/- 1.0mV Precision
Response Time	95% within 5 Seconds
Power Supply	12-36 VDC, ~1W
Output	4~20 mA isolated, RS-485 isolated
Connector	IP67 water-proof connector/cable 1.5 m (4.5 ft)
Operation Pressure	Up to 0.7 MPa (100PSI)
Installation	ST-001 Pyxis Standard ¾-inch NPT Tee for panel mount or pipe clamp MA-102S Submersion Adapter for submersed applications
Storage Temperature	-20 °C ~ 60 °C (-4~140 °F)
Operational Temperature	40 – 120 °F (4 – 49 °C)
Housing Material	CPVC
Dimension	Length 6.8 inch (172.7 mm), body diameter 1.44 inch (36.6 mm)
Weight	0.37 lbs (170 grams)
Typical Service Life	2+ Years
Warranty	13 Months from Date of Shipment
Regulation	CE & RoHS

Accessories

 PYXIS INLINE SENSOR ACCESSORIES - SELECT*A*GUIDE 		
Accessory Name/Description	Part Number	Photo
Pyxis ST Series Cleaning Kit <i>(Includes 500mL Sensor Cleaner / Qtips & Pipe Cleaners)</i>	SER-01	
Pyxis pH Calibration Standard Combination Pack <i>(Includes 500mL Bottle Each pH 4 / 7 / 10)</i>	57007	
Pyxis ORP 200mV Calibration Standard <i>(Includes One 500mL Bottle)</i>	57020	
0.75" NPT Inline Sensor Tee Assembly <i>(All ST Series Sensors)</i>	50704	
2.0" NPT Inline Sensor Tee Assembly <i>(All ST Series Sensors)</i>	50756	
3.0" NPT Inline Sensor Tee Assembly <i>(All ST Series Sensors)</i>	50775	
ST-002 Inline Sensor Removal PLUG <i>(Allows ST Sensor Removal)</i>	ST-002	
ST Series Sensor Tee Replacement O-Ring <i>(All ST Series Tee's)</i>	MA-150	
ST Series Submersion Adapter Kit <i>(Submersible Kit for all ST-Series Sensors)</i>	MA-102S	
MA-WB Bluetooth Adapter for All ST Series Sensors <i>(4-20mA & RS-485)</i>	MA-WB	
MA-485 USB Adapter for All ST Series Sensors <i>(4-20mA RS-485)</i>	MA-485	
Bluetooth PC to Handheld Adapter <i>(For uPyxis Firmware Updates)</i>	MA-NEB	
PowerPack 1 <i>(Single Channel Power Supply w/Bluetooth)</i>	MA-BLE-1	
PowerPack 2 <i>(Dual Channel Power Supply w/Bluetooth)</i>	MA-BLE-2	
PowerPack 4 <i>(Four Channel Power Supply w/Bluetooth)</i>	MA-BLE-4	
MA-1100 <i>(4.9' Flying Lead Cable for All ST Sensors)</i>	MA-1100	
MA-C10 <i>(10' Extension Cable for All ST Sensors)</i>	50738	
MA-C50 <i>(50' Extension Cable for All ST Sensors)</i>	50705	
MA-C100 <i>(100' Extension Cable for All ST Sensors)</i>	50706	

Order Information

ST-710 pH Sensor (0.00-14.0 4-20mA & RS-485)	P/N 53001
ST-711 ORP Sensor (+/- 1,500 mV 4-20mA & RS-485)	53002
ST-712 pH + ORP Combination Sensor (0-14 / +/- 1500mV 2x4-20mA & RS-485))	53003

Optional Accessories Information

MA-WB Bluetooth Adapter (Enables Wireless Calibration w/uPyxis APP)	P/N MA-WB
PowerPACK-1 (Single Chanel Auxiliary Power Supply w/Bluetooth For ST Series Sensors)	MA-BLE-1
PowerPACK-2 (Dual Chanel Auxiliary Power Supply w/Bluetooth For ST Series Sensors)	MA-BLE-2
PowerPACK-4 (Four Chanel Auxiliary Power Supply w/Bluetooth For ST Series Sensors)	MA-BLE-4
Pyxis Calibration Std pH Combo Pack 4-7-10	57007
Pyxis ORP Calibration Std 200mV	57010-4
MA-C10 (10' Extension Cable for ST Series Sensors)	50738
MA-C25 (25' Extension Cable for ST Series Sensors)	50740
MA-C50 (50' Extension Cable for ST Series Sensors)	50705
MA-C100 (100' Extension Cable for ST Series Sensors)	50706