ST-710 Series

Inline Industrial pH & ORP Smart Sensors

Description

The Pyxis ST-710 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 significantly longer 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 replaced. Each sensor offers a five-foot bulkhead cable with 7-Pin quick adapter as well as a 1.5-foot flying lead cable with 7-pin adapter for rapid installation and replacement. The ST-710 series are provided with the ST-001 Pyxis standard ¾" NPT-CPVC installation Tee for in-line flow applications and may also be installed in submersed applications using the MA-102S Submersion Adapter. Additionally, larger pipe size installation Tee's are available from Pyxis Lab.

ST-712
(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 / Specifications

- Industrial Process & Cooling Water
- Dual embedded transmitters – 4-20mA and RS-485 Modbus
- Compact design for small footprint ideally suited for industrial applications
- Tolerant to frozen conditions during shipment or storage for short periods
- Large junction capacity and salt-bridge for enhanced pH accuracy in fouled waters
- Oversized platinum disk for improved ORP response
- Notably longer service life and less maintenance -vs- conventional sensors
- Bluetooth Accessible when used with MA-WB or PowerPACK Bluetooth Adapters
- Wireless Sensor Diagnosis and Calibration with uPyxis APP for Mobile or Desktop devices

Items	ST-710	ST-711	ST-712
P/N	53001	53002	53003
pH Range 0 – 14 +/- 0.01 pH unit Precision	X	NA	X
ORP Range +1,500mV +/- 1.0mV Precision	NA	X	X
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 Tee Assembly MA-102S Submersion Adapter		
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 *(includes 500mL Sensor Cleaner / Qtips & Pipe Cleaners)*	SER-01	
Pyxis pH Calibration Standard Combination Pack *(Includes 500mL Bottle Each pH 4 / 7 / 10)*	57007	
Pyxis ORP 200mV Calibration Standard *(Includes One 500mL Bottle)*	57020	
0.75" NPT Inline Sensor Tee Assembly *(All ST Series Sensors)*	50704	
2.0" NPT Inline Sensor Tee Assembly *(All ST Series Sensors)*	50756	
3.0" NPT Inline Sensor Tee Assembly *(All ST Series Sensors)*	50775	
ST-002 Inline Sensor Removal PLUG *(Allows ST Sensor Removal)*	ST-002	
ST Series Sensor Tee Replacement O-Ring *(All ST Series Tee's)*	MA-150	
ST Series Submersion Adapter Kit *(Submursible Kit for all ST-Series Sensors)*	MA-102S	
MA-WB Bluetooth Adapter for All ST Series Sensors *(4-20mA & RS-485)*	MA-WB	
MA-485 USB Adapter for All ST Series Sensors *(4-20mA RS-485)*	MA-485	
Bluetooth PC to Handheld Adapter *(For uPyxis Firmware Updates)*	MA-NEB	
PowerPack 1 *(Single Channel Power Supply w/Bluetooth)*	MA-BLE-1	
PowerPack 2 *(Dual Channel Power Supply w/Bluetooth)*	MA-BLE-2	
PowerPack 4 *(Four Channel Power Supply w/Bluetooth)*	MA-BLE-4	
MA-1100 *(4.9' Flying Lead Cable for All ST Sensors)*	MA-1100	
MA-C10 *(10' Extension Cable for All ST Sensors)*	50738	
MA-C50 *(50' Extension Cable for All ST Sensors)*	50705	
MA-C100 *(100' Extension Cable for All ST Sensors)*	50706	

Cleaning & Calibration

The ST-710 Series sensors are uniquely designed and highly stable. Simple maintenance cleaning and calibration of the sensors on a regular basis should enable very long operational life and accuracy. Cleaning and calibration frequencies are application dependent on the contaminant level of suspended solids, iron, manganese, oil, and bacteria, etc... When calibration is required, the ST-710 Series can be wirelessly diagnosed, cleaned and calibrated using the **MA-WB** or **PowerPACK** Series Bluetooth adapters and the **uPyxis** APP for Mobile or Desktop.

See instructional video attached. https://www.youtube.com/watch?v=nzIwohOA2_o

Figure 1 – MA-WB Bluetooth Adapter (left) / uPyxis Mobile APP (center) / Pyxis Conductivity Standard & Probe Cleaner (right)