

# ST-765SS Series

## Inline pH + Oxidizer Sensors

### Description

The Pyxis ST-765SS Series are stainless steel multi-parameter membrane-less sensors based on unique electrochemical principles to determine numerous oxidizers including free-residual chlorine and chlorine dioxide plus pH and temperature of water. These sensors incorporate Pyxis' advanced technology in the field of bare-gold electrochemical detection. Offered in two formats, the ST-765SS-FCL (free-residual chlorine + pH) and the ST-765SS-CLO (chlorine dioxide + pH) can simultaneously compensate for temperature and pH in the measurement of oxidizer based on real-time conditions present in the application of use. This unique internal compensation results in a highly accurate oxidizer measurement consistent with DPD wet chemistry methodology as high as a pH of 9.0+ and is compliant with USEPA – 334.0 and ISO-7393 guidelines.

The ST-765SS series sensors offer a replaceable, front loading reference electrode assembly that has been independently developed by Pyxis Lab eliminating the shortcomings associated with membranes and gel replacement while offering reduced polarization time on startup with an electrode life span potential of up to 2-years. The flat front-end design of the ST-765SS series makes this platform less prone to contamination or fouling and is easy to clean. The ST-765SS series sensor body is composed of 304 stainless steel and is well suited for aggressive environments.

The ST-765SS series sensors offer 2x 4-20mA and RS-485 Modbus outputs and is Bluetooth 5.0 enabled when used in conjunction with the MA-CR Bluetooth Adapter. This four-electrode composite sensor provides three measured parameters including oxidizer, pH and temperature with one sensor equipped with fully integrated 2x 4-20mA and RS-485 Modbus outputs. ST-765SS is the best choice for potable water, secondary water supply, industrial water, domestic water, decorative water and other clean water applications.

### Key Features

- Real-Time pH + Oxidizer (0-5ppm) Detection
- Dual 4-20mA Outputs (Oxidizer + pH) and RS-485
- Bluetooth Enabled when used with MA-CR Adapter Wireless uPyxis Calibration
- Integrated RTD & pH Compensation to pH 9.0 of the Oxidizer Value
- Replaceable EH-765 Reference Electrode Assembly – Simple Maintenance



**ST-765SS Series**  
*Free-residual Chlorine + pH Sensor*  
*Chlorine Dioxide + pH Sensor*



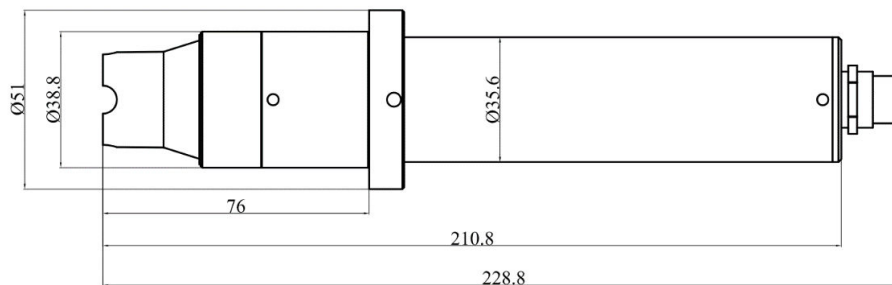
**EH-765**  
*Replacement Electrode*  
*for all ST-765SS Series*

## Specifications of ST-765SS Series

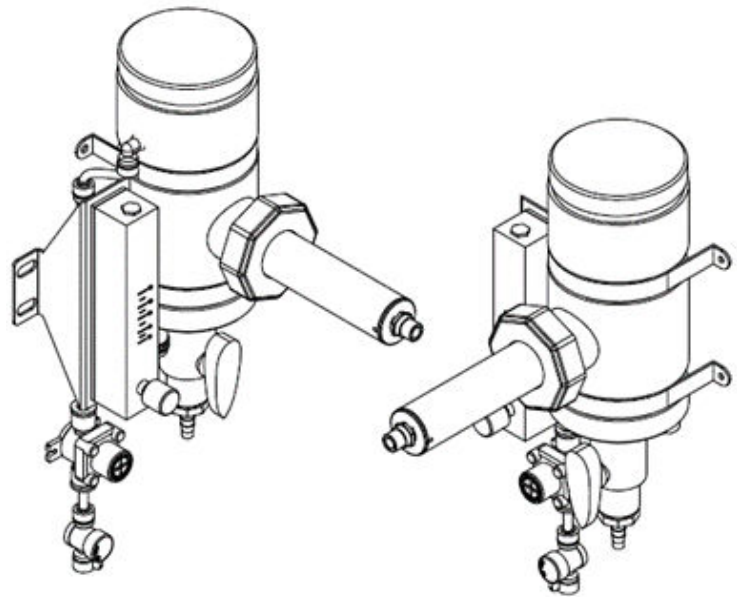
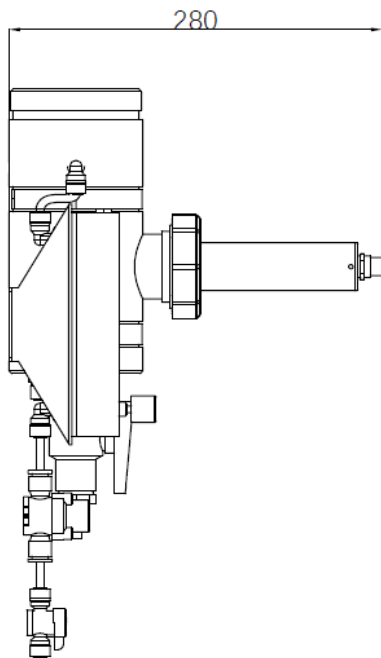
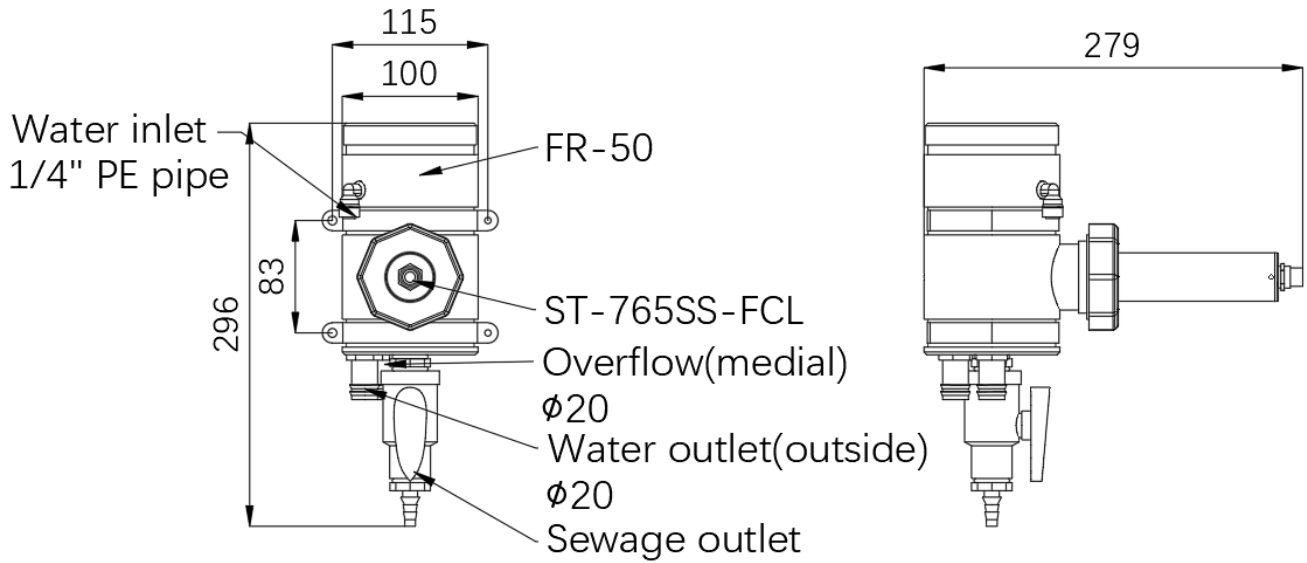
Item	ST-765SS-FCL	ST-765SS-CLO
P/N	53607	53608
Sensor Body Material	304SS	
Oxidizer Range	0.00-5.00 ppm Free-residual CL <sub>2</sub> / CLO <sub>2</sub> (auto-range)	
Oxidizer Precision	± 0.01mg/L or 1% of the value w/pH compensation up to 9.0+	
pH Range	0-14	
pH Precision	±0.01 pH	
FR-50 Sample Inlet Pressure	7.25 – 30 psi (0.05 – 0.2MPa)	
FR-50 Installation	FR-50 Self-Regulating Flow Reservoir w/Rotameter & PRV - Included	
FR-50 Minimum Flow Rate	600 mL/minute	
FR-50 Maximum Flow Rate	1,800 mL/minute	
FR-50 Sample Inlet	¼ - inch OD	
FR-50 Sample Outlet	20mm - To Drain	
FR-50 Overflow Outlet	20mm - To Drain	
FR-50 Sewage Drain Outlet	½ - inch NPT	
Power Supply	22 – 26VDC, Power Consumption 2W	
Storage Temperature	-7 °C – 60 °C (20 – 140 °F)	
Outputs	Dual Isolated 4 – 20 mA Analog Outputs + Isolated RS-485 Digital Output	
Dimension (L x D)	Length 8.3 inch (210.8 mm), body diameter 1.4 Inch (35.6 mm)	
Weight	530 g (1.16lbs)	
Maximum Sensor Pressure	100 psi (6.9 Bar) – Sensor Only	
Operating Temperature	4 °C – 49 °C (40 – 120 °F)	
Wet Material	UPVC	
Rating	IP67, Fully Dustproof & Waterproof	
Selectivity	Non-Selective / Cross Sensitive to other Oxidizing Species	
Compliance	EPA 334.0 / ISO 7393	
Regulation	CE Marked / RoHS	
Cables Included	MA-4.9CR Cable (8Pin Adapters – 4.9ft) MA-1.5CR Cable (8 Pin Adapter / Flying Leads – 1.5ft)	
Typical Electrode Service Life	2 Years	
Electrode Warranty	6 Months	
Sensor Body Warranty	13 Months	

**\*NOTE\*** In waters containing multiple oxidizers, the ST-765 series will determine a combined result and will not differentiate species.

## Dimensions of ST-765SS Series (mm)



Dimensions of FR-50 Flow Cell Assembly for ST-765SS Series (mm)

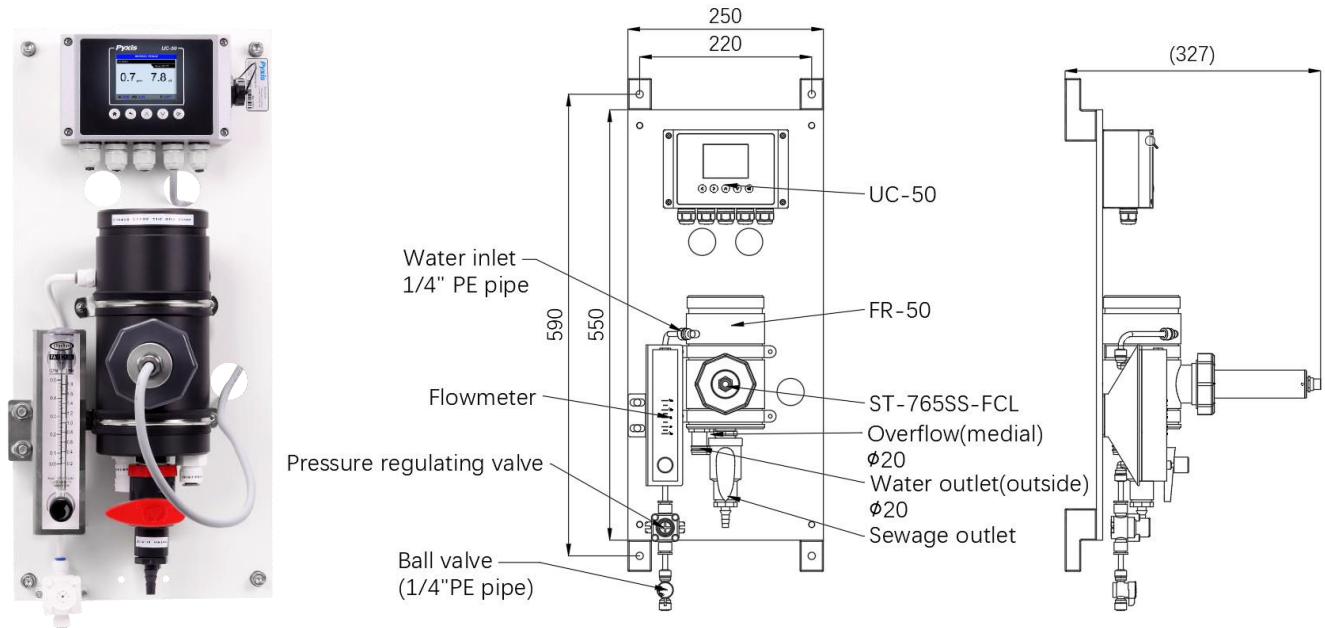


### OxiPanel IK-765SS Series Oxidizer + pH + Temperature Online Monitoring Panel

The OxiPanel IK-765SS Series is a pre-assembled Free-residual Chlorine or Chlorine Dioxide + pH + Temperature monitoring panel consisting of the ST-765SS-FCL (free-residual chlorine sensor) or ST-765SS-CLO (chlorine dioxide sensor) with mounted FR-50 flow reservoir and the UC-50 Display + Data Logging Terminal. These platform solutions offer real-time display, data logging and signal output capability of the sample water oxidizer, pH and temperature values. The UC-50 is a microprocessor display/data-logging terminal that has been preconfigured to connect Pyxis inline sensors with fully integrated calibration, scaling and measurement protocol. When any Pyxis Lab sensor is connected to the UC-50 in RS-485 Modbus, the UC-50 interface allows users to select and recognizes the sensor and configuration for immediate data display, data logging and communication with zero configuration necessary. The user may also program and adjust the output signal and 24VDC relay through the UC-50 display screen. The IK-765SS series detection system can be applied to a potable water piping network, secondary water supply and water quality monitoring of domestic and clean industrial applications.

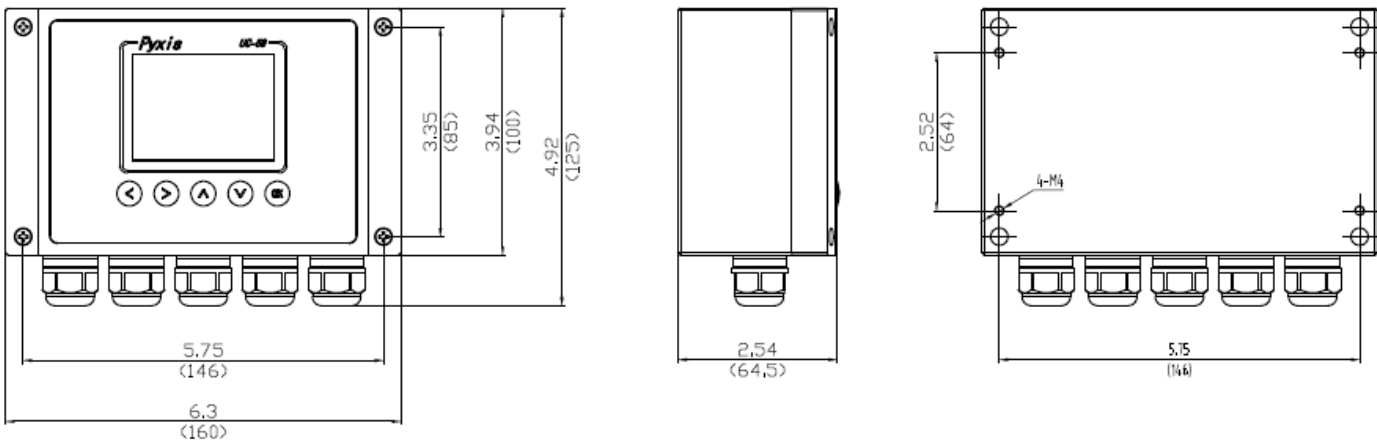
Item	P/N	Description
IK-765SS-FCL	42082	ST-765SS-FCL Sensor + FR-50 Flow Reservoir + UC-50 Display/Data Logger
IK-765SS-CLO	42085	ST-765SS-CLO Sensor + FR-50 Flow Reservoir + UC-50 Display/Data Logger

### Image and Dimensions of OxiPanel IK-765SS Series (mm)



**Specifications of UC-50 Display/Data Logging Terminal**

Item	UC-50
P/N	43007
Power	110/220VAC 50/60 Hz, 0.6A
Display	2.8" Color 320 x 240 Resolution
Output	1 x 4-20 mA / RS-485 Modbus-RTU / 1x Contact Relay
Input	1 x 4-20 mA / RS-485 Modbus-RTU
Relay Output	One channel relay output – 5Watt Maximum
Data Storage	32 M Flash
USB	1 x USB host for data downloading
Dimension (L x W x D)	6.3-inch x 3.9-inch x 2.6-inch
Weight	4.6 lbs / 2.1 kg
Operation Temperature	32 – 122 °F (-0 – 50 °C)
Storage Temperature	-4 – 158 °F (-20 – 70 °C)
Humidity	5 – 95% No Condensation
Protection	IP-65
BlueTooth	BlueTooth 5.0 - Capable of Reading Pyxis Bluetooth Sensors
Regulation	CE, RoHS

**Dimensions of UC-50 (mm/in)**


### uPyxis Mobile & Desktop APPS for Wireless Setup, Diagnostics & Calibration

The uPyxis APP manages all Pyxis portable meter and inline sensors on mobile and desktop devices, including Apple iPhones and Samsung Android smartphones. When connected to the Pyxis ST-765SS Series inline sensors, the uPyxis APP enables users to conduct a wireless probe calibration of pH and oxidizer from the touch of their smart device. The uPyxis direct calibration of the sensor eliminates unnecessary time wasted with calibrating the probe through the receiving controller and ensures the highest degree of accuracy and minimizes time spent in the field.

**\*Note\*** The uPyxis Mobile APP is evolving rapidly and users can find the latest version at no cost on Apple iStore or Google Play. The uPyxis Desktop APP may be downloaded at <https://pyxis-lab.com/support-2/>

For wireless access to all Pyxis devices via uPyxis, users will require the inline Bluetooth Adapter (P/N: MA-CR). Details can be found in the Order Information section of this Data Sheet.



#### Order Information

ST-765SS-FCL (304SS Inline Free-residual Chlorine 0 -5.0ppm + pH Sensor w/Flow Reservoir)	53607
ST-765SS-FCL (304SS Inline Free-residual Chlorine 0 -5.0ppm + pH Sensor Only)	53607-NFR
ST-765SS-CLO (304SS Inline Chlorine Dioxide 0 – 5.0ppm + pH Sensor w/Flow Reservoir)	53608
ST-765SS-CLO (304SS Inline Chlorine Dioxide 0 – 5.0ppm + pH Sensor Only)	53608-NFR

#### Optional-Replacement Accessories

FR-50 (Replacement FR-50 Flow Reservoir w/Rotameter & PRV)	50700-A01
EH-765 (ST-765SS Replacement Reference Electrode Assembly)	53061
ST-007 (Optional Stainless Steel Flow Cell for ST-765SS Series)	50700-A51
FR-300-PLUS (Optional Auto-Brushing Flow Assembly For Dirty Water Applications)	50700-A44
MA-CR Bluetooth Adapter (Optional 8-Pin Bluetooth Adapter for use with uPyxis APP)	MA-CR
UC-50 Display + Data Logging Terminal	43007
IK-765SS-FCL (UC-50 Display + FR-50 Flow Reservoir + ST-765SS-FCL Sensor on Panel)	42082
IK-765SS-CLO (UC-50 Display + FR-50 Flow Reservoir + ST-765SS-CLO Sensor on Panel)	42085
SP-200 OxiPocket™ (Pocket All-Oxidizing Disinfectants Colorimeter & Fluorometer)	50802