

# ST-765SS Series

## Inline pH + Free Chlorine / Chlorine Dioxide Sensors

### Description

The Pyxis ST-765SS Series are stainless steel multi-parameter membrane-less sensors based on unique electrochemical principles to determine free chlorine or chlorine dioxide and pH content in water. These sensors incorporate Pyxis' advanced technology in the field of bare-gold electrochemical detection. The ST-765SS-FLC sensor integrates free chlorine, plus pH measurement while the ST-765SS-CLO integrates chlorine dioxide plus pH measurement. Both can perform temperature and pH compensation for the measurement of free chlorine or chlorine dioxide based on 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, offering 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. The world's first four-electrode composite sensor that provides three measured parameters including free chlorine or chlorine dioxide, pH and temperature with one sensor RS-485 Modbus output. ST-765SS is the best choice for potable water, secondary water supply, domestic water, decorative water and other clean water applications.

### Key Features

- Real-Time pH + FCI (0-5ppm) or ClO<sub>2</sub> (0-5ppm) Detection
- Dual 4-20mA Outputs (FCI or ClO<sub>2</sub> + 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 Chlorine + pH Sensor*  
*Chlorine Dioxide + pH Sensor*

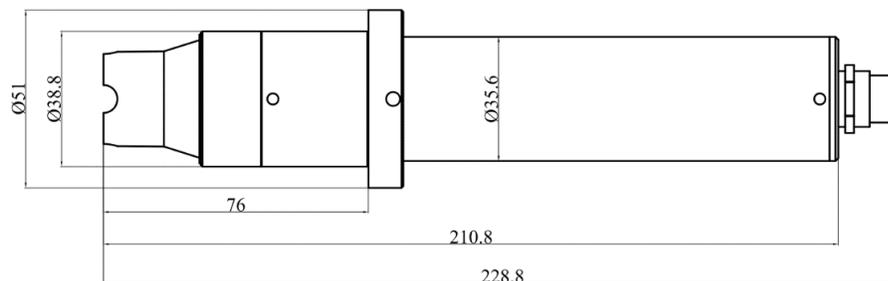


**EH-765**  
*Replacement Electrode*  
*for ST-765SS Series*

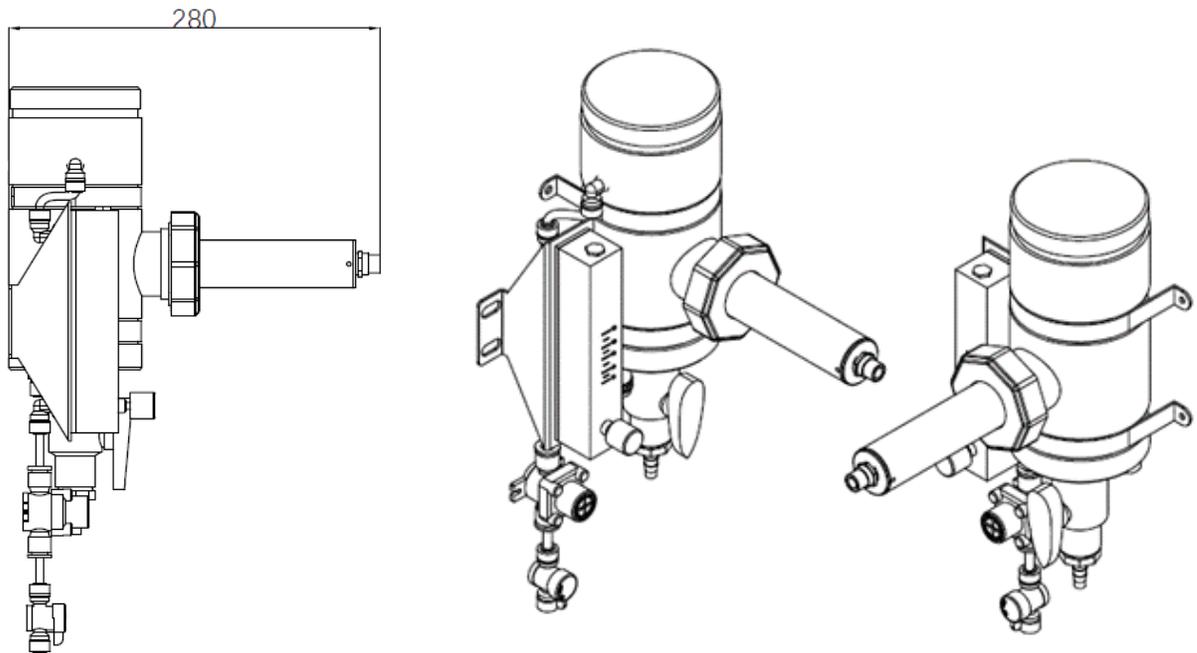
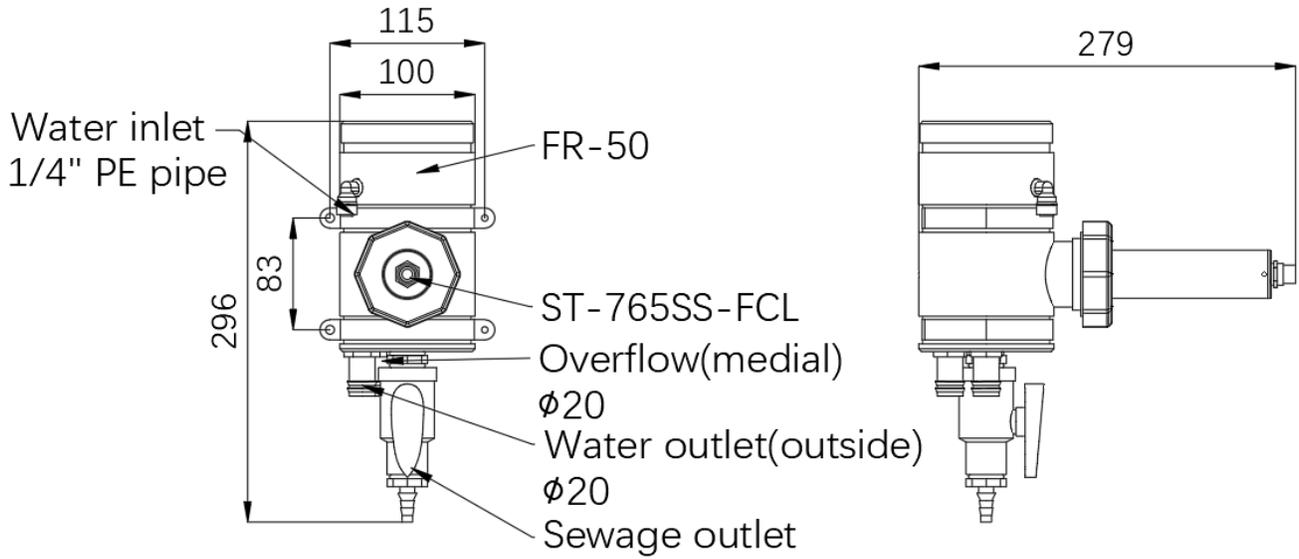
**Specifications of ST-765SS Series**

Item	ST-765SS-FCL	ST-765SS-CLO
P/N	53607	53608
Sensor Body Material	304SS	304SS
Oxidizer Range	0.00-5.00 ppm FCl <sub>2</sub> (auto-range)	0.00-5.00 ppm 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	200 mL/minute	
FR-50 Maximum Flow Rate	400 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 – 40 °C (40 – 104 °F)	
Wet Material	UPVC	
Rating	IP67, Fully Dustproof & Waterproof	
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)

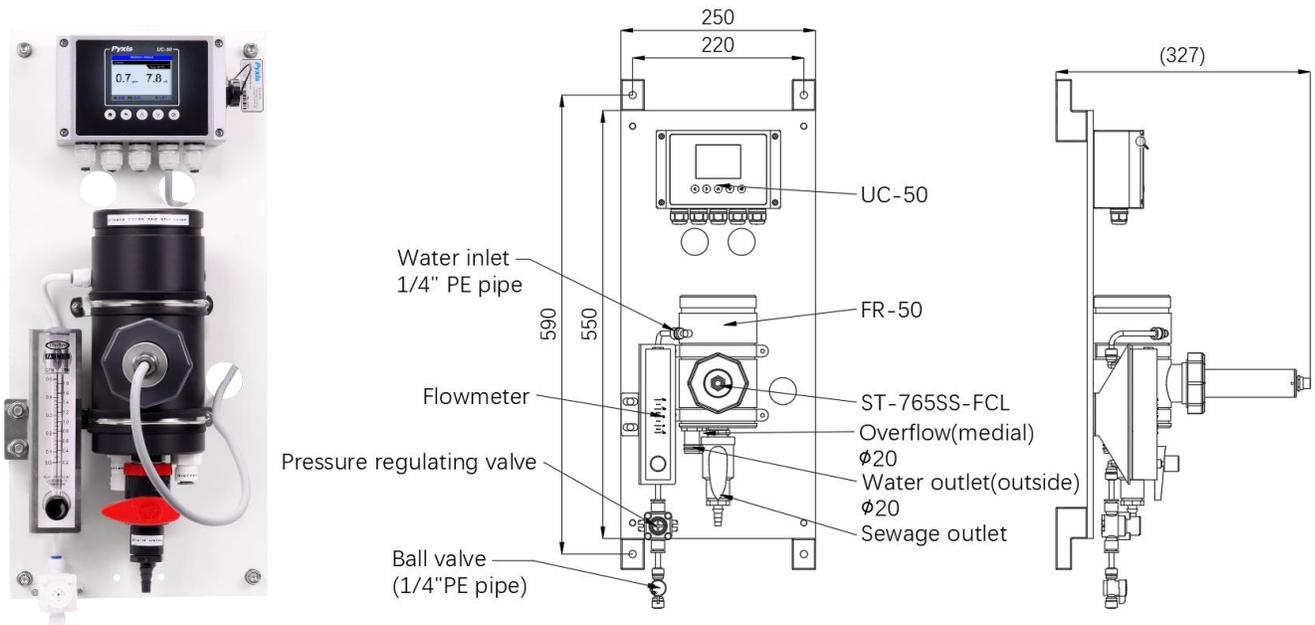


### IK-765SS Series Free Chlorine or Chlorine Dioxide + pH + Temperature Online Monitoring Panel

The IK-765SS Series is a pre-assembled Free Chlorine or Chlorine Dioxide + pH + Temperature monitoring panel consisting of the ST-765SS-FCL (free 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 sample free chlorine or chlorine dioxide, pH and temperature. 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 automatically recognizes the sensor and configuration for immediate data display, data logging and communication. The user may also configure and calibrate the output signal and contact relay through the UC-50 controller's 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.

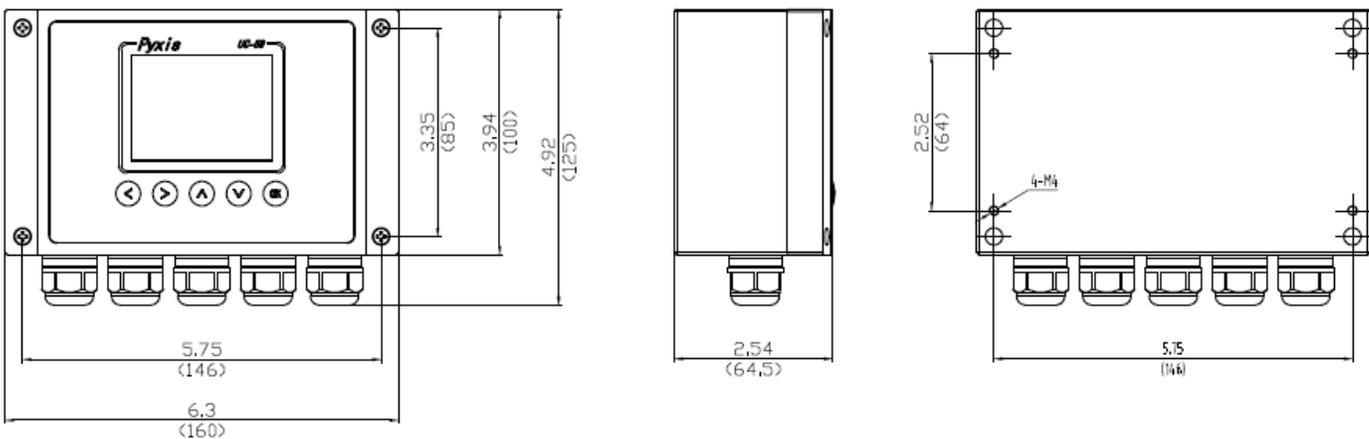
Item	P/N	Description
IK-765SS-FCL	42082	ST-765SS-FCL Sensor + FR-50 low Reservoir + UC-50 Display/Data Logger
IK-765SS-CLO	42085	ST-765SS-CLO Sensor + FR-50 Flow Reservoir + UC-50 Display/Data Logger

### Image and Dimensions of 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-765 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 Chlorine + pH Sensor w/Flow Reservoir **P/N**  
*(0-5 ppm FCl<sub>2</sub> + 0-14 pH / 4-20mA + RS-485)* 53607

ST-765SS-CLO 304SS Inline Chlorine Dioxide + pH Sensor w/Flow Reservoir 53608  
*(0-5 ppm ClO<sub>2</sub> + 0-14 pH / 4-20mA + RS-485)*

#### Optional-Replacement Accessories

FR-50 *(Replacement FR-50 Flow Reservoir w/Rotameter & PRV)* **P/N** 50700-A01

EH-765 *(ST-765SS Replacement Reference Electrode Assembly)* 53061

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 304SS Free Chlorine + pH + Temp Panel 42082  
*(UC-50 Display + FR-50 Flow Reservoir + ST-765SS-FCL Sensor on Panel)*

IK-765SS-CLO 304SS Chlorine Dioxide + pH + Temp Panel 42085  
*(UC-50 Display + FR-50 Flow Reservoir + ST-765SS-CLO Sensor on Panel)*

SP-200 OxiPocket™ *(Pocket All-Oxidizing Disinfectants Colorimeter & Fluorometer)* 50802