



DATA SHEET

## OXIPANEL

### IK-765-B Series Auto-Brushing Oxidizer + pH Analyzers

#### Product Description

The IK-765-B Series are dual-parameter inline water analyzers specifically designed as a 'Turn-Key' monitoring solution for challenging water applications including cooling water, food & industrial process water, raw water & treated wastewater effluent applications. The IK-765-B Series offers highly accurate, real-time measurement, display & data logging of two oxidizer measurement formats as well as pH & temperature utilizing proprietary Pyxis Lab® smart sensor technology, coupled with a UC-50 micro display & data logging terminal. The IK-765-B also incorporates a uniquely designed automated mechanical brush flow assembly which is directly controlled via the UC-50 display to maintain optimum sensor electrode cleanliness in the most challenging of system water. The IK-765-B Series is offered in a convenient and easy to integrate panel mounted format for rapid installation and simple maintenance.

The IK-765-B Series is offered in three sensor formats depending on the desired oxidant being measured. The panel design is equipped with the proprietary ST-765SS Series of smart sensors, capable of measuring Free Chlorine (FCL), Bromine (Br) or Chlorine Dioxide (CLO) in addition to pH & temperature of the sample water. The sensor design is membrane free & based on unique principles incorporating advanced technology in the field of bare-gold electrochemical detection. The ST-765SS-FCL (Free Chlorine), ST-765SS-Br (Bromine) & ST-765SS-CLO (Chlorine Dioxide) measure the oxidant level & pH simultaneously while performing temperature & pH compensation. These panels are also equipped with the FR-300 Plus brushing flow assembly to ensure constant electrode cleanliness & UC-50 terminal prewired to the ST-765SS sensor in RS-485 format with a sensor diagnostics & calibration interface. This unique platform provides highly accurate measurement consistent with DPD wet chemistry methodology as high as pH 9.0+ & meets EPA-334.0 as well as ISO-7393 compliance.

## Turn-Key Installation

The IK-765-B requires a small installation footprint, offers auto-brush cleaning with simple maintenance & is specifically designed for use in challenging industrial cooling & process applications. The analyzers sensor data may be downloaded via USB or connected to a receiving device via RS-485 output or (1) 4–20mA output from the UC-50 terminal. Users may utilize the (2) 4–20mA outputs directly from the ST-765SS sensor for terminating to an alternative controller or device, while the sensor is simultaneously connected to the UC-50 in RTU.



## Features

Pyxis Lab® ST-765SS-FCL (Free Chlorine + pH/Temperature), ST-765SS-Br (Bromine + pH/Temperature), and ST-765SS-CLO (Chlorine Dioxide + pH/Temperature) are three-parameter composite sensors used for the measurement of residual Free Chlorine, Bromine or Chlorine Dioxide, pH & Temperature in compliance with EPA 334.0 & ISO-7393 Guidelines. The sensors advanced PCB offers built-in temperature & pH parameter compensation (up to pH 9.0+) algorithms eliminating the need for a supplemental pH sensor & controller. Unique Bare-Gold electrode technology for residual oxidizer measurement eliminates membranes & electrolyte solution replenishment commonly associated with conventional sensors. The ST-765SS Series has a uniquely designed flat bubble pH electrode design for reduced fouling potential. Reduce your maintenance & cost versus colorimetric chlorine measurement or conventional electrochemical sensors by utilizing a replaceable electrode head (EH-765) for this sensor, allowing for years of reliable service. The ST-765SS Series may be calibrated in-situ after cleaning via DPD Free Chlorine, Bromine or Chlorine Dioxide wet chemistry test measurement of active sample.



The FR-300 Plus is a magnetic coupling motorized brush flow assembly that provides an inline mechanical cleaning of the ST-765SS enabling sensor accuracy in challenging industrial cooling & process waters. This device enhances the convective mass transport of the oxidizer analyte to the sensor surface eliminating the need for precision flow control. The FR-300 Plus also provides supplemental deactivation protection of the bare-gold electrode for long-life, stability and accuracy. The brushing frequency & rotational speed may be controlled via RS-485 from the UC-50 terminal. The FR-300 Plus contains a 'chemical detergent injection port' in the assembly housing allowing for the optional injection of cleaning agents at the brush head for extremely challenged waters containing oils or grease. The FR-300 Plus may be operated at a broad range of sample flow from 200 & 800mL per minute with an inlet pressure of  $\leq 30$ psi. The outlet flow line may be diverted to drain or returned to an atmospheric tank/sump within the process itself for reuse.

## Features Continued

Simple sensor removal & replacement. The ST-765SS Series sensors are connected to the display/data-logging terminal via RS-485 Modbus (RTU) allowing for integrated sensor calibration interface & diagnostics within the display screen. Convenient & simple to install Back-Panel (IK-765-B Series) for rapid & easy installation. Truly a plumb & power to go platform with intense factory setup, testing & sensor calibration prior to shipment.

UC-50 micro-display/data logging interface with sensor calibration integrated. The UC-50 display & data logging terminal offers (1) 4–20mA Input & Output as well as RS-485 with remote diagnosis & parameter adjustment.



## Sensor Specifications

| Item                      | IK-765SS-FCL-B      | IK-765SS-CLO-B      | IK-765SS-Br-B       |
|---------------------------|---------------------|---------------------|---------------------|
| <i>P/N</i>                | 42169               | 42170               | 44074               |
| <i>Sensor Body</i>        | 304SS               | 304SS               | 304SS               |
| <i>Sensor Name</i>        | ST-765SS-FCL        | ST-765SS-CLO        | ST-765SS-Br         |
| <i>Oxidizer Measured</i>  | Free Chlorine       | Chlorine Dioxide    | Bromine             |
| <i>Oxidizer Range</i>     | 0.00–5.00ppm        | 0.00–5.00ppm        | 0.00–5.00ppm        |
| <i>Oxidizer Precision</i> | ±0.01mg/L or 1%     | ±0.01mg/L or 1%     | ±0.01mg/L or 1%     |
| <i>pH Range</i>           | 0–14                | 0–14                | 0–14                |
| <i>pH Precision</i>       | ±0.01 pH            | ±0.01 pH            | ±0.01 pH            |
| <i>Operating Temp</i>     | 4-40 °C (40-104 °F) | 4-40 °C (40-104 °F) | 4-40 °C (40-104 °F) |
| <i>Inlet Pressure</i>     | 7.25-30psi          | 7.25-30psi          | 7.25-30psi          |
| <i>Response Time</i>      | T95≤60s (≤5s pH)    | T95≤60s (≤5s pH)    | T95≤60s (≤5s pH)    |
| <i>Measure Interval</i>   | Continuous          | Continuous          | Continuous          |
| <i>Installation</i>       | FR-300+ Reservoir   | FR-300+ Reservoir   | FR-300+ Reservoir   |
| <i>Selectivity</i>        | Non-Selective       | Non-Selective       | Non-Selective       |

## FR-300 Plus Specifications

| Item                       | IK-765SS-FCL-B          | IK-765SS-CLO-B | IK-765SS-Br-B |
|----------------------------|-------------------------|----------------|---------------|
| <i>Suggest Flow Rate</i>   | 200-800mL/minute        |                |               |
| <i>Sample Inlet/Outlet</i> | 3/8 - inch OD           |                |               |
| <i>Operation</i>           | RS-485 Preset via UC-50 |                |               |
| <i>Rotational Speed</i>    | 100-400RPM - Adjustable |                |               |

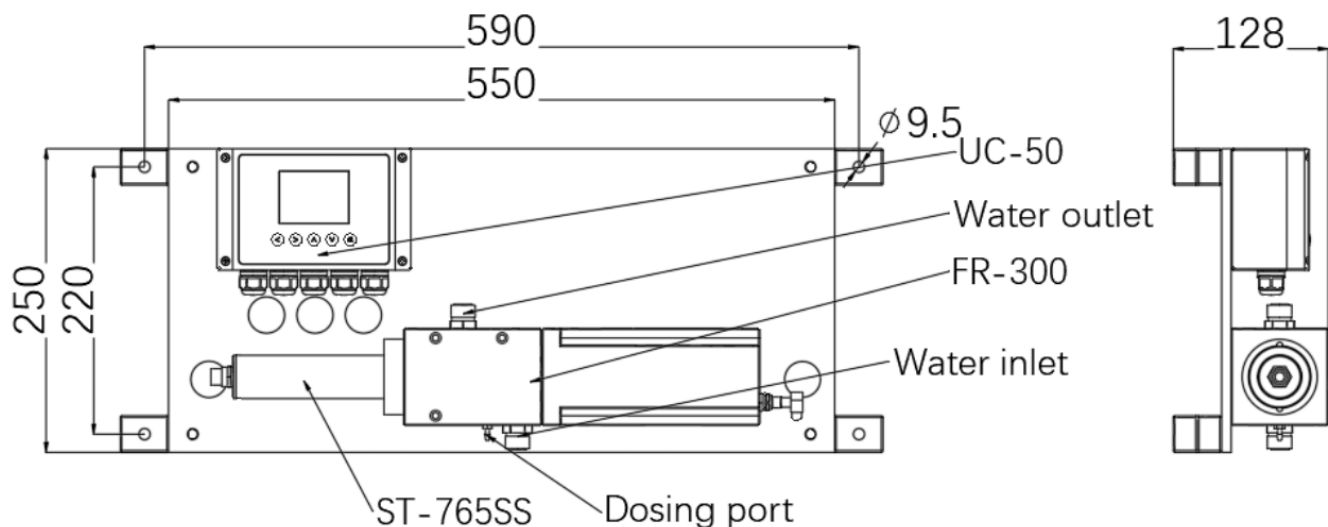
## UC-50 Specifications

| Item              | IK-765SS-FCL-B   | IK-765SS-CLO-B | IK-765SS-Br-B |
|-------------------|--|----------------|---------------|
| Display           | 2.8" Color 320x240 Resolution                                    |                |               |
| Input             | (1) 4–20mA / RS-485 Modbus RTU                                   |                |               |
| Output            | (2) 4–20mA from ST-765SS / RS-485 Modbus RTU / (1) Contact Relay |                |               |
| Relay             | (1) Channel Relay Output 24VDC / 10W Max Available               |                |               |
| Data Storage      | 32M Flash  |                |               |
| USB               | (1) USB Host for Data Downloading                                |                |               |
| Relative Humidity | 5–95% (No Condensation)  |                |               |
| Altitude          | <6,561ft (<2,000m)   |                |               |

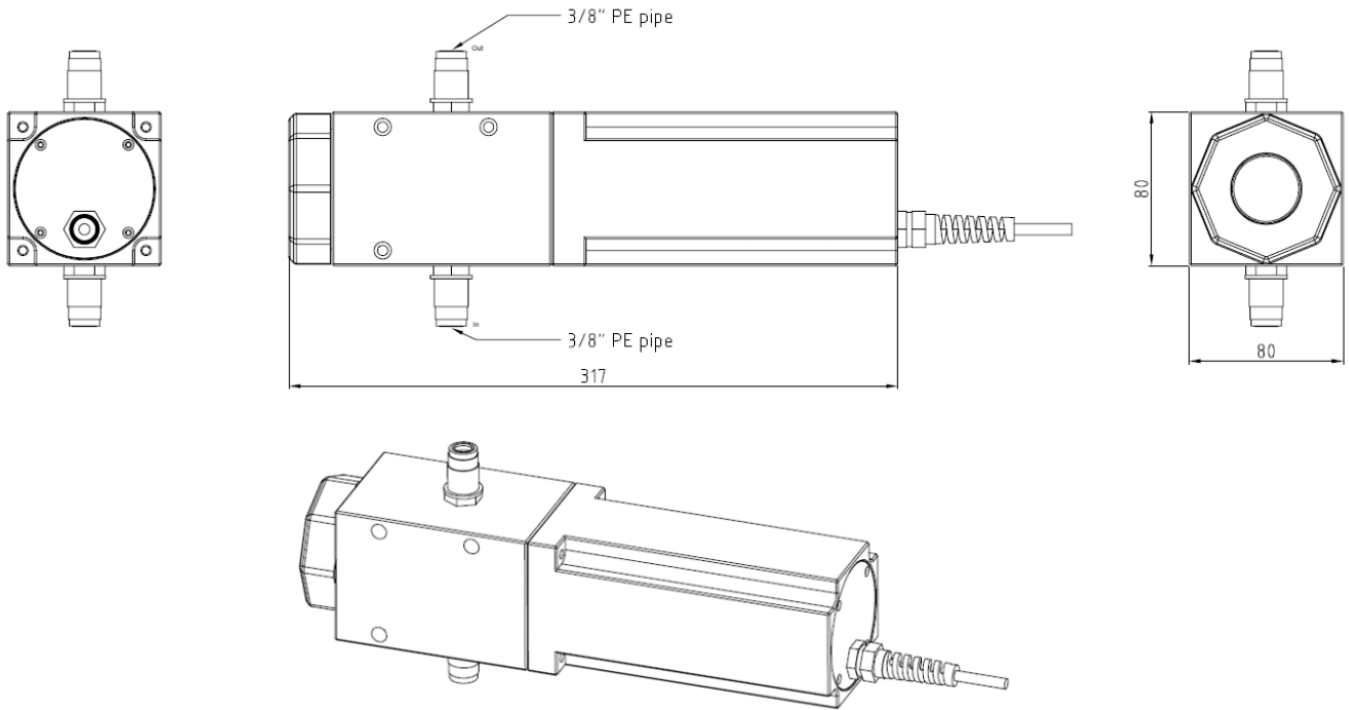
## Panel Specifications

| Item               | IK-765SS-FCL-B                        | IK-765SS-CLO-B | IK-765SS-Br-B |
|--------------------|---------------------------------------|----------------|---------------|
| Power Supply       | 110/240 VAC 50/60 Hz, 0.6A            |                |               |
| Storage Temp.      | -4–158 °F (-20–70 °C)                 |                |               |
| Operating Temp.    | 32–122 °F (0–50 °C)                   |                |               |
| Dimensions         | Panel 250H x 590W x 128D mm           |                |               |
| Approx. Weight     | Panel ~ 8kg                           |                |               |
| Wet Material       | UPVC / Polycarbonate                  |                |               |
| Rating             | IP-65 Panel & Display / IP-67 Sensors |                |               |
| Compliance         | EPA 334.0 / ISO 7393                  |                |               |
| Regulation         | CE Marked / RoHS                      |                |               |
| Electrode Life     | 2 Years                               |                |               |
| Electrode Warranty | 6 Months                              |                |               |
| Sensor Warranty    | 13 Months                             |                |               |

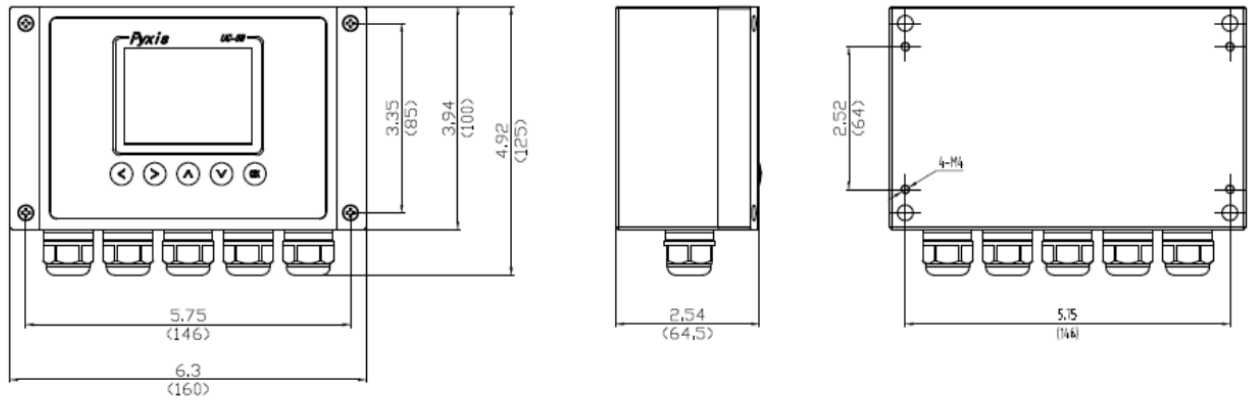
## IK-765SS-B Panel Dimensions (mm)



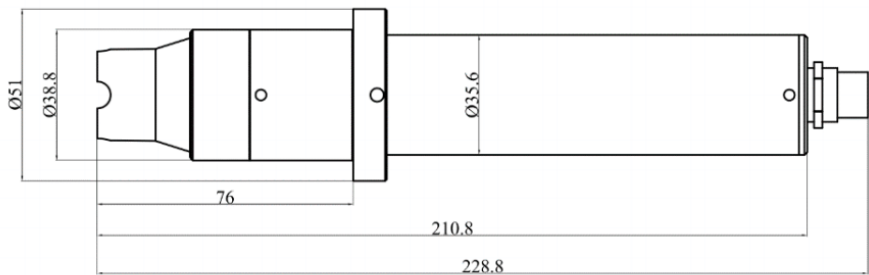
## FR-300 Plus - Flow Reservoir Dimensions (mm)



## UC-50 Terminal Dimensions (mm)



## IK-765SS Sensor Dimensions (mm)



ST-765SS-Series Oxidizer + pH Sensor

## Order Information

IK-765SS-FCL-B (Auto-Brushing Free Chlorine Panel)

IK-765SS-CLO-B (Auto-Brushing Chlorine Dioxide Panel)

IK-765SS-Br-B (Auto-Brushing Bromine Panel)

## Part Number

42169

42170

44074

## Optional/Replacement Accessories Information

ST-765SS-FCL (Free Chlorine + pH + Temperature Sensor ONLY)

53607-NFR

ST-765SS-Br (Bromine + pH + Temperature Sensor ONLY)

59643

ST-765SS-CLO (Chlorine Dioxide + pH + Temperature Sensor ONLY)

53608-NFR

EH-765 (Replacement Electrode Head for Sensor)

53061

FR-300 Plus (Auto-Brushing Flow Assembly Replacement)

50700-A44

FR-300-01 (Replacement Brush Head)

50700-A49

UC-50 Display & Data Logging Terminal

43007

SP-200 OXIPOCKET Handheld

50802

