OxiPanel PLUS IK-765SS-BP

Hidden Parameter Setting Screen

In the IK-765SS-BP system there is a hidden parameter setting screen where user can view the device SN number and set the parameters for “Smoothing Coefficient”, “Sensitivity”, “Brush Speed”, “Flow Alarm” and “Flow Recovery”.

Enter the real-time monitoring screen, as shown in Figure 1.

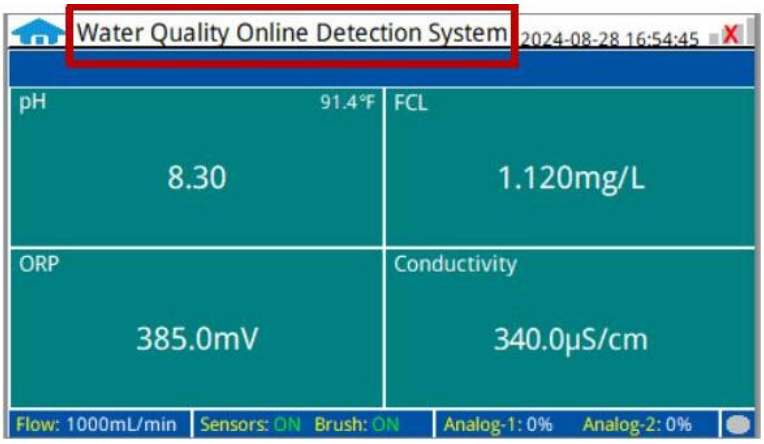

Figure. 1 - Real-Time monitoring screen

Press and hold the red box in Figure 1 for at least 5 seconds, the system will enter the hidden parameter setting screen.

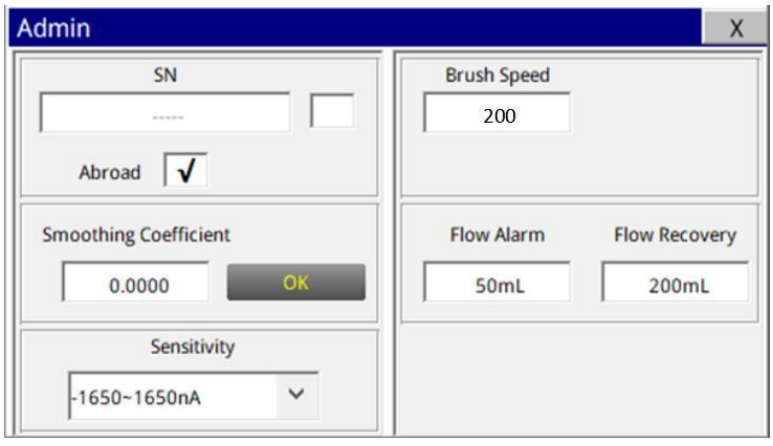

Figure. 2 - Hidden parameter setting screen

In the upper left position, the user can view the SN number of the device. The first blank cell is the SN number of the device. The adjacent small field enables user to configure whether to upload the SN to the server. The field below allows the user to select whether to use a domestic or foreign server.

In the center-left position, the user can set the smoothing coefficient parameter of the sensor. Usually the oxidant concentration (e.g., free chlorine) is a very small signal, which is easily subject to external interference. The ST-765SS-FCL sensor adopt a continuous smoothing and averaging algorithm to filter out these minor interferences. A suitable smoothing factor setting allows users to obtain a high-quality measurement and suitable dynamic response based on the application needs. The smoothing factor setting regulates the speed of sensor response.

The higher the smoothing factor value, the faster the sensor response and the lower the interference and noise suppression enabling a more rapid response to any changes of the real value. The lower the smoothing factor value, the slower the sensor response and the better the interference and noise suppression, but the slower the response to the real value change.

Pyxis Lab uses the term "T90" when the measured value of the sensor reaches 90% of the true value to describe the speed of the sensor response in seconds. The default smoothing factor of ST-765SS-FCL sensor is **0.0024 (T90 ≈4 minutes)**. The available setting range of the smoothing factor is 0.001 to 0.9. The following table outlines the comparison between the smoothing factor and T90 for the ST-765SS-FCL sensor and should be used if considering an adjustment to the smoothing factor settings. ***NOTE*** *The smoothing coefficient is not available when the sensor is in calibration mode.*

Smoothing Factor	T90 (Seconds)
0.1	5.5
0.09	6
0.08	7
0.07	8
0.06	9.25
0.05	11.25
0.04	14
0.03	19
0.02	28.5
0.01	57.25
0.009	63.75
0.008	71.75
0.007	82
0.006	97.5
0.005	114.75
0.004	143.5
0.003	191.5
0.002	287.5

$$T_{90} \approx 0.538 * Smooth\_factor^{-1.013}$$

In the lower left position, the user can set the sensitivity of the sensor. Click on the arrow position on the right, there are different current ranges for users to choose from. The wider the range of current, the lower the sensitivity of the sensor and wider the range of sensor residual measurement. The narrower the range of current, the higher the sensitivity of the sensor and smaller the range of sensor residual measurement. ***NOTE*** *Pyxis default sensitivity is -16500nA to +16500nA (Sensitivity Level 1) which measures the lower range 0.001 – 5.000ppm. Changing this only alters the sensors' ability to measure, however, the 4-20mA output scale of the sensor remains unchanged and is capped at 5ppm (20mA).*

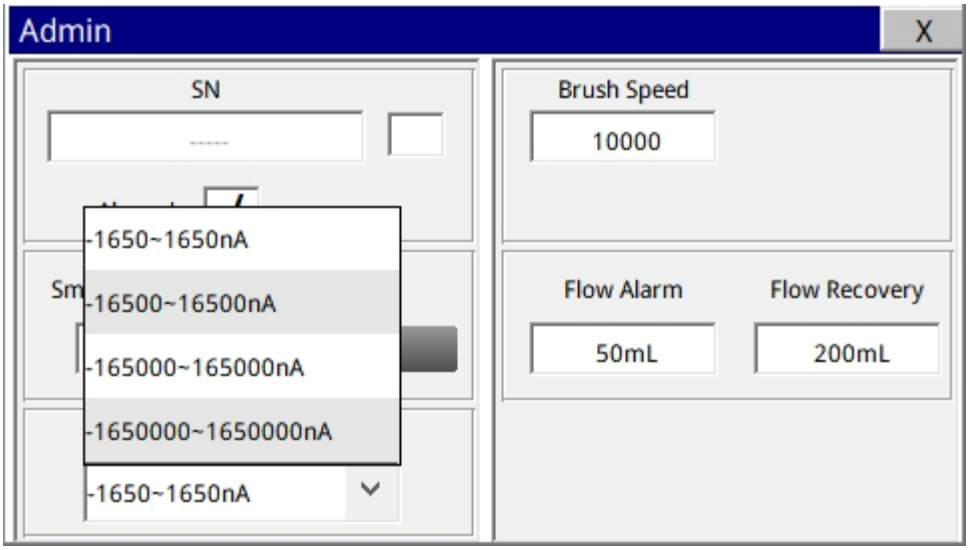

Figure. 3 - Sensitivity Setting

In the upper right position, the user can set the brush's running speed. The higher the value, the faster the brush speed. The default value is 10000, and the FR-300Plus brush speed is 200r/min.

In the center-right position, the user can set the flow alarm and flow recovery. When the time for detecting traffic less than the traffic alarm value is greater than or equal to the delay time, a flow alarm will appear on the real-time monitoring screen. When the detected flow rate is greater than or equal to the flow rate recovery value, the flow rate alarm in the real-time monitoring screen will disappear.