

**SciLog DN 3124: SciCon Conductivity Sensors, 100hr Exposure to 1.0 N NaOH at 22 °C and 10 psi of Back Pressure**

**Test Solution: 0.100 N KCl, 12.88 mS @ 25.0 °C**

\* Standard Deviation

Test Data SciCon Sensor ID	Initial Sensor Response to 12.88 mS Test Solution	Sensor Response: 25 Hour Exposure	Sensor Response: 50 Hour Exposure	Sensor Response: 75 Hour Exposure	Sensor Response: 100 Hour Exposure	Sensor Response Average	Sensor Response SD*	Sensor Response %SD
C1-240251-0308	12.87	12.85	12.91	12.96	12.96	12.90	0.05	0.38
C1-240010-0308	12.96	12.87	12.93	12.97	12.97	12.93	0.05	0.35
C1-240060-0308	13.02	12.95	13.02	13.00	13.03	13.00	0.03	0.25
C1-240302-0308	12.91	12.82	12.85	12.91	12.92	12.87	0.05	0.35
C1-240100-0308	12.86	12.76	12.82	12.78	12.78	12.81	0.04	0.35
C1-240173-0308	12.93	13.01	12.96	13.00	13.00	12.98	0.04	0.28
Group Average:	12.93	12.88	12.92	12.94	12.94			
Group SD*	0.06	0.09	0.07	0.08	0.09			
%SD	0.46	0.70	0.56	0.65	0.68			

**SUMMARY:** The sensor response data, collected over 100 hours of continuous NaOH exposure, show a stable sensor accuracy and precision level over time. For individual sensors, the average accuracy measured @12.88 mS, stays well within established limits of +/- 0.2 mS. The same holds for the sensor group averages based on the responses of the five sensors. **The long-term stability of the sensor pre-calibration is verified by the above sensor data.**

**NOTE:** SciLog sensors have been designed for disposable, single-use applications. However, with proper care, the sensors can be re-used repeatedly while maintaining good accuracy and precision. If required, sensors can be re-calibrated.

**CAUTION:** Do Not Exceed Maximum Pressure of 60 psi

**Test Protocol:** Six pre-calibrated (@12.88mS) SciCon Luer conductivity sensors were exposed to 1.0 N NaOH for 100 hours at 22°C and 10 psi back pressure. The 1.0 N NaOH solution was continuously recirculated (150ml/min) through the in-line sensors using a peristaltic pump. At 25 hour intervals, the test was briefly interrupted, the sensors were flushed 3x with distilled water and purged for 5 minutes with distilled water utilizing a peristaltic recirculation pump. Prior to testing, the SciCon sensors and the test solution were temperature equilibrated at 25.0 °C for 45 minutes utilizing a constant temperature glove box. While in the glove box, the sensors were tested with a 0.100 N KCL (12.88mS) solution that was re-circulated through the in-line sensors at 150ml/min. Test solution conductivity was tested with a NIST-traceable (YSI, Model 30) conductivity sensor. The test solution temperature was monitored with a NIST- tractable thermistor. All Sensors were tested with their original factory calibration; no re-calibration were carried out before or during the test run. All SciCon sensors were randomly selected from SciLog inventory.