



# Certificate of Calibration

## TEST RESULTS:

The instrument was measured at room temperature and was powered up and allowed to stabilize for a minimum of 48 hours before measurements commenced. All measurements were performed at the Measurements International (MI) facility in Prescott, ON.

## TEST RESULTS:

### Standard Resistor Calibration:

The SL935 standard resistors were calibrated by comparing the resistors with standard resistors maintained by MI. The calibration is traceable to the International System of Units (SI) through an unbroken chain of calibrations to the Quantum Hall Effect. The MI standard resistors are maintained in an oil bath at  $(25.000 \pm 0.010) ^\circ\text{C}$ . The measurements were made using a calibrated room temperature Direct Current Comparator Resistance Bridge, Model 6010.

The 10 k $\Omega$  resistor was measured with a measurement current of 0.316 mA and a reversal rate of 12 seconds. The quoted value is the average of six individual measurements.

1  $\Omega$  resistor was measured with a measurement current of 100 mA and a reversal rate of 12 seconds. The quoted value is the average of six individual measurements.

Resistance ( $\Omega$ )	Uncertainty ( $\mu\Omega/\Omega$ )
9,999.9762	0.10
1.00006380	0.10

The type B uncertainty for the measurement comes from the uncertainty of the 1  $\Omega$  / 10 k $\Omega$  resistor. The type B and type A uncertainties are root sum squared and doubled to give expanded uncertainty. The quoted resistance and associated uncertainty apply to the measurement made at the stated time and under the specified conditions.

MEAN DATE OF MEASUREMENT: March 26, 2023





Measurements International  
Standards Calibration Laboratory

CERTIFICATE NO.:  
**C1230316**

# Certificate of Calibration

CUSTOMER NAME:

**xDevs.com**

CUSTOMER ADDRESS:



MEASURAND:

MODEL NO.: **Fluke SL935**

S/N.: **001**

MFG.: **xDevs**

DESCRIPTION: **Temperature Stabilized Resistance Standard**

CALIBRATION RANGE(S) OR POINTS COVERED BY THIS CERTIFICATE:

**1  $\Omega$  and 10 k $\Omega$**

CALIBRATION PROCEDURE

**CAL-11-012-03**

**CAL-11-010-04**

REFERENCE STANDARD(S):

MFG.	DESCRIPTION	MODEL NO.	S/N.	CALIBRATED DATE	CERTIFICATE NO.
<b>Measurements International</b>	<b>1 <math>\Omega</math> Standard Oil Resistor</b>	<b>9210A/1R</b>	<b>1031203</b>	<b>August 11, 2021</b>	<b>ES-2021-0024-01</b>

ENVIRONMENTAL CONDITIONS:

AMBIENT:  
TEMPERATURE: **23** °C  $\pm$  **2** °C  
HUMIDITY: **25** %  $\pm$  **10** %  
BAROMETRIC PRESSURE: **100** kPa

OF MEASURAND:  
TEMPERATURE: **23.00** °C  $\pm$  **2** °C  
HUMIDITY: **25** %  $\pm$  **10** %

## UNCERTAINTY OF MEASUREMENT

THE UNCERTAINTY OF MEASUREMENT IS ESTIMATED TO BE:

THE REPORTED UNCERTAINTY OF MEASUREMENT IS STATED AS THE COMBINED STANDARD UNCERTAINTY MULTIPLIED BY A COVERAGE FACTOR OF  $k = 2$ . THE MEASURED VALUE ( $y$ ) AND THE ASSOCIATED UNCERTAINTY ( $U$ ) REPRESENT THE INTERVAL ( $y \pm U$ ) WHICH CONTAINS THE MEASURED QUANTITY WITH A PROBABILITY OF APPROXIMATELY 95%. THE UNCERTAINTY WAS ESTIMATED USING ISO GUIDE TO THE EXPRESSION OF UNCERTAINTY IN MEASUREMENT (GUM) GUIDELINES. THE ESTIMATED UNCERTAINTY CONTAINS CONTRIBUTIONS ORIGINATING FROM THE MEASUREMENT STANDARD CALIBRATED BY A NATIONAL LABORATORY, FROM THE CALIBRATION METHOD, FROM THE ENVIRONMENTAL CONDITIONS AND FROM THE MEASURAND BEING CALIBRATED. THE LONG-TERM BEHAVIOUR OF THE MEASURAND IS NOT INCLUDED.

AMENDMENTS (IF APPLICABLE):

CERTIFICATE NO. AMENDED: \_\_\_\_\_ REASON FOR AMENDMENT: \_\_\_\_\_

CALIBRATED BY (SIGNATURE)

DATE OF CALIBRATION

**March 26, 2023**

AUTHORIZING SIGNATURE

DATE OF ISSUE

**23/03/27**



The reported measurements contained within this report relate only to the measurands calibrated. These measurements are traceable to national standards and thus to the International System of Units (SI).

The Calibration Laboratory Assessment Services (CLAS) of the National Research Council of Canada (NRC) has assessed and certified specific calibration capabilities of this laboratory and traceability to the International System of Units (SI) or to standards acceptable to the CLAS program.

This Certificate of Calibration is issued in accordance with the conditions of certification granted by CLAS and the conditions of accreditation (ISO/IEC 17025:2017), granted by the Standards Council of Canada (SCC). Neither CLAS nor SCC guarantee the accuracy of individual calibrations by accredited laboratories.

SCC File No: 15611