

DIRECT CURRENT AND LOW FREQUENCY (DC & LF) LABORATORY

Introduction

Kenya Bureau of Standards (KEBS) Direct Current and Low Frequency (DC & LF) Laboratory is the national custodian for the SI unit for current – the Ampere – and derived electrical quantities (Voltage, Resistance, Capacitance, Inductance).

We offer traceability nationwide to the SI through calibrations against the reference standards. The laboratory operates under ISO/IEC 17025 – General requirements for testing and calibration laboratories quality system and uses both in house developed calibration methods and standard calibration methods (ISO, DKD, NIST, ASTM, customer supplied methods) on the various equipment.

We have a team of highly qualified electrical engineers that perform the calibrations. Additionally, we offer training in DC & LF measurements at all levels. Our training covers measurements in AC & DC currents and Voltages, Resistance, capacitance, and Inductance. Additionally, uncertainty of measurements, development of procedures and overview of interlaboratory comparison processes are covered in the training.

The lab is accredited by Dakks (scope click here ([link](#))). Further, we have published calibration measurement capabilities (CMCs) on the [BIPM KCDB \(Key Comparison Database\)](#) platform.



***Discover the DC & LF Lab, the
custodian for current and derived
electrical quantities***



KEBS DC&LF Laboratory Services

REFERENCE STANDARDS	SERVICES OFFERED	RANGE
AC/DC VOLTAGE+ CURRENT GENERATION <i>Voltage generation capability is up to 1000 V and current up to 100 A (and up to 5000 A with an adapter coil for clamp meters)</i>	• Calibration of direct acting measuring instruments (multimeters, ammeters, voltmeters) • Calibration of clamp meters (up to 5000 A). • Calibration of current measuring instruments up to 100 A • Calibration of 732B Voltage standards	Voltage generation up to 1000 V Current generation up to 100 A direct measurement and up to 5000 A indirect measurement (using current coil) Zener DC Voltage standards 10 V, 1.018 V
AC/DC VOLTAGE+ CURRENT MEASUREMENT	• Calibration of multifunction calibrators • Calibration of power supply units, current sources, voltage sources • Calibration of precision/reference multimeters.	Voltage measurement up to 1000 V Current measurement up to 300 A
RESISTANCE MEASUREMENT <i>Resistance measurement range is from 1 $\mu\Omega$ to 9 GΩ</i>	• Calibration of resistance artifacts/standards. • Calibration of multi shunt equipment e.g., Ductor-Cal 5700 • Calibration of resistance decade boxes	Resistance measurement from 1 $\mu\Omega$ to 9 GΩ
RESISTANCE STANDARDS Resistance standards can handle a maximum of 1500 V for high voltage insulation testers and a maximum of 300 A for contact resistance testers.	• Calibration of ohmmeters, wire resistance meters and other resistance measuring equipment. • Calibration of insulation resistance testers • Calibration of contact resistance testers • Calibration of precision thermometers (super thermometers)* <i>*Calibrated using resistance standards and high precision voltage calibrators for thermocouple sensing</i>	Resistance decade box standards from 0.01 mΩ to 10 TΩ



REFERENCE STANDARDS	SERVICES OFFERED	RANGE
CAPACITANCE+ INDUCTANCE STANDARDS <i>Inductance standards 100 μH to 10 H</i> <i>Capacitance standards 10 pF to 1 μF</i>	Calibration of capacitance and inductance meters	Inductance standards 100 μ H to 10 H Capacitance standards 10 pF to 1 μ F
CHEMICAL ANALYSIS MEASUREMENTS	- Calibration of pH meters - Calibration of conductivity/TDS meters - Calibration of turbidity meters - Calibration of polarimeters/saccharimeters	pH Simulation 0 – 14 Certified buffer solutions 4,5,6,7,9 and 10 pH values 0 OZ to 100 OZ (polarimeters/saccharimeters)
INTER-LABORATORY COMPARISON	Performing ILC with other labs on request	Covers accredited scope as per our Dakks Accreditation D-K-15101-01-00 (Available on Dakks Website) and published CMCS on BIPM KCDB platform

Contact

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