

Dennis Kaweesi

Protection & Testing Engineer | Power Systems

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PROFESSIONAL PROFILE

Results-driven Electrical Engineer with over 7 years of progressive experience in power systems protection, testing and commissioning, smart metering R&D, and process automation. Proven expertise in protection relay configuration and testing (ABB, Siemens), HV/LV substation commissioning, IEC 61850 SCADA integration, and machine learning-driven power theft detection. Skilled in bridging engineering rigour with software innovation through Python, Android, and SQL-based tools that enhance field efficiency and data analytics.

CORE COMPETENCIES

Power Systems Protection	Overcurrent, distance, differential & transformer
Relay Testing & Configuration	ABB (PCM600), Siemens (DIGSI 4/5); OMICRON
	injection
HV/LV Commissioning	Substations up to 220 kV; switchgear, transformers
IEC 61850 / SCADA	SCD file generation, point-to-point testing, NCC
Smart Metering	STS prepayment (v1→v2), AMR, meter auditing,
Software & Automation	Python, Android (Java), SQL, Oracle, MATLAB,
Data Science / ML	DataCamp certified; machine learning for power
Tools & Office	Microsoft 365, report writing, project

PROFESSIONAL EXPERIENCE

Testing Engineer

Jul 2024 - Present

IET (International Energy Technik), 6th Street, Industrial Area, Kampala

- Testing and configuration of overcurrent and distance protection relays at Mirama, Agago, Kole, Olwiyo and Nkenda 220/132/33 kV substations.
- Led design, supply, installation, testing and commissioning of a 60/80 MVA 132/33 kV power transformer with 132 kV bay and 33 kV switchgear at Nkenda substation.
 - Conducted point-to-point communication testing for single-point indications and controllable objects (breakers, isolators, earth switches) between substation relays, HMI, and the National Control Centre (NCC) at Nkenda.
- Managed design, supply, installation, testing and commissioning of a 10-unit 500 kVA 11/0.415 kV auxiliary transformer project at UEGCL.

Metering Engineer - Research & Development *UMEME Ltd, Lugogo, Kampala*

- Designed and deployed the TID (Token Identifier) Roll-Over application, streamlining the migration of single-phase prepayment meters from STS Version 1 to Version 2 and ensuring compliance with the latest metering standards.
- Designed and implemented a single-phase cluster box to enhance physical security of meters and enable three-phase balancing.
- Automated key metering department workflows through Android and Python apps covering end-to-end new connections, three-phase meter reading, prepayment retrofits, standards & compliance audits, and AMR retrofits.
- Led the development of a machine learning model for power theft detection — from data anonymisation through algorithm development and refinement — reducing non-technical losses.

- Conducted rigorous stress testing and design reviews for Inhemeter single-phase prepayment meters, resulting in significant hardware and firmware improvements accepted by the manufacturer.
- Improved field visibility between supervisors and technicians via mobile applications, enhancing real-time monitoring, analytics, and coordination.
- Played a key role in procurement and evaluation of metering products, ensuring best-fit solutions for utility operations. •Delivered training programmes for staff and contractors on all developed mobile applications.

Graduate Trainee

Engineer *UMEME Ltd,*
Kampala

- Performed secondary injection testing using OMICRON CMC256plus on overcurrent and distance protection relays.
- Carried out primary testing with OMICRON CPC: ratio tests, winding resistance on power transformers, contact resistance on switchgear, and CT/PT ratio tests.
- Configured, tested and commissioned Siemens numerical relays at Mbale 33/11 kV and Tororo Main 132/33 kV substations using DIGSI 4.9 and DIGSI 5.
- Installed switchgear bay extensions and performed functional testing, rewiring, relay configuration and primary injection at Mutundwe 132/33/11 kV, Kampala North 132/33/11 kV, Mbarara North 33/11 kV, Nkenda and Opuyo 132/33 kV substations.
- Wired and tested transformer protection schemes (Buchholz, Air-cell Rupture, Pressure Relief, winding/oil temperature) at Bombo 33/11 kV and Nakawa 33/11 kV substations.
- Tested, configured and commissioned auto-reclosers and load break switches on the UMEME distribution network. • Used PCM600 (ABB) and DIGSI (Siemens) relay configuration tools; applied overcurrent, distance, and differential protection principles.

Graduate Trainee

Sep 2016 – Nov 2016

Tororo Cement Uganda, Tororo

- Monitored, repaired and maintained generators, motors and transformers to ensure optimal plant performance. • Performed insulation resistance testing and other electrical diagnostics; conducted motor rewinding for AC and DC motors.
- Carried out routine preventive maintenance on boilers, compressors and coolers, reducing equipment downtime.

KEY PROJECTS

GETFIT Switching Stations – IEC 61850 Protection & SCADA

Designed, tested and commissioned protection and SCADA systems using IEC 61850 protocol for GETFIT switching stations at Rugendabara, Kibiito and Hima.

Mbale Central Park, Bombo & Nakawa Substations – Siemens Relay Rollout

Installed panels, commissioned Siemens relays, generated SCD files, and performed point-to-point testing between relays, HMI and National Control Centre to enable full remote monitoring.

Nkenda 132/33 kV Substation – Switchgear & Relay Commissioning

Commissioned switchgear and relays; performed bay signal point-to-point testing to verify continuity and integrity of signals between relay, HMI and NCC.

Nkenda 80 MVA Transformer Installation

Installed and commissioned 80 MVA power transformer, including differential protection implementation and full protection scheme testing.

INTERNSHIPS

Internship Trainee – Software

Development *Netlabs Uganda, Kampala*

- Android development (Java): built apps with authentication, data storage, API integration, and offline SQLite management.
- Python GUI development using Tkinter/PyQt; designed RESTful API integrations for mobile-server communication.

**Internship Trainee - Electrical
Maintenance** *Century Bottling Company,
Mukono*

- Performed preventive maintenance and fault diagnosis on boilers, compressors, refrigeration systems and plant machinery.

- Conducted lubrication, alignment, calibration, insulation resistance testing and steam boiler inspections.

EDUCATION & QUALIFICATIONS

**BSc Electrical Engineering
(Power)** *Makerere University,
Kampala*

Final-year project: Design and implementation of an automatic load control system to minimise energy wastage in university halls of residence.

Data Scientist Professional Certificate

Jan 2023

*DataCamp***Uganda Advanced Certificate of Education (UACE)**

2010 – 2011

*Mulusa Academy Wobulenzi***Uganda Certificate of Education (UCE)**

2006 – 2009

*Mulusa Academy Wobulenzi***PROFESSIONAL MEMBERSHIP**

Graduate Member, Uganda Institution of Professional Engineers (UIPE) – Reg. No. GM2195, since 2020.

Registered Electrical Installer, Electricity Regulatory Authority (ERA) — Permit No. ERA/EIP/CLA/026/10587 (Class A) | Valid: 22 May 2026 – 22 May 2027

REFERENCES

Irumba Oscar	Protection Engineer, UETCL	+256 787 056 692
Emojong Joseph	Testing Engineer, IET	+256 776 360 339
Mangeni Moses Peter	Senior Territory Engineer, UEDCL	+256 700 370 729