



KINECTRICS

GridSim Power Lab

Dynamic Power Testing for Megawatt
Class Equipment



Applications

- Solar Photovoltaic Inverters & Inverter Stations
- Battery Energy Storage Systems (BESS)
- Traction Power System Type Testing
- Transformer Rectifier Units (TRU)
- Transformer Inverter Units (TIU)
- Offshore Oil & Gas Power Systems
- Wind Power Converters
- Industrial Plant Power Equipment
- Other Medium-Voltage/Power Equipment



The Kinectrics GridSim Power Laboratory is a state-of-the-art, independent facility in Toronto aimed at testing smart grid systems, renewable generation equipment, and medium voltage power systems over a wide range of voltages and frequencies, and at power levels up to 12 MVA. The lab is able to perform testing to UL 1741, IEEE 1547.1, CSA C22.2. No. 107.1 and IEC 62109.

This capability suits the interests of global utilities, developers, original equipment manufacturers, and standards organizations to research, develop, test, and certify new technologies in support of safe renewable power integration with the grid.

Third-Party Services for Tomorrow's Smart Grid



Kinectrics is your one-stop, independent provider of smart grid related testing services. From flexible power and grid simulation to high current, high voltage, and consultancy services – Kinectrics can support the scope and scale of almost any renewable power system integration. If an inverter or medium voltage power system is functioning out of bounds during Type Testing, Kinectrics' world-renowned Transmission and Distribution expertise can provide supportive consultation to identify, analyze, and help resolve any issues.

What We Offer

Full Range of Testing for Megawatt Class Equipment

The GridSim lab was built with an extremely flexible approach in terms of footprint, voltage, frequency, and power level. We have a significant load bank capacity on site with easy access to rentals as needed. This flexible test-bed approach caters well to markets such as Rail Transit Traction Power Testing to IEEE1653 series of standards and many other applications.

Accelerate Inverters to Market with UL 1741 Certification

The GridSim lab is focused on the dynamic electrical tests required by the IEEE 1547.1 test standard. Inverter manufacturers can meet modern utility needs and offer compliant grid support utility interactive inverters and utility interactive inverters to customers by certifying to UL 1741 — thereby accelerating their products to market.

Turnkey Testing and Support Services

Kinectrics takes a turnkey solution approach to testing, offering logistics support for receiving and shipping of customer test specimens globally. We also have subject matter experts in building blocks of such systems including rectifiers, breakers, transformers, cable systems, and many more that can be called upon to advise our clients if needed.

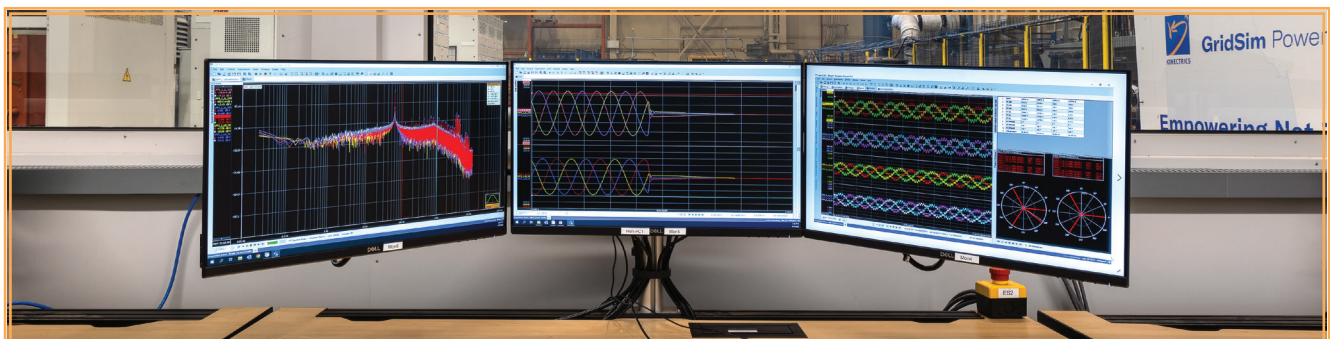
A Vendor-Neutral Research Test Bed

Development of new grid interactive technologies, integration of DG equipment, and development of next-generation grids require test environments where test cases can be simulated to provide valuable data for real-grid scenarios. A future focus is also on distributed controls, allowing for a distributed infrastructure capable of self-healing and significantly more intelligence at the end node. Communication using the IEC 61850 standard and leveraging Kinectrics' state of the art RTDS (Real Time Digital Simulator) allows for Power Hardware In the Loop (PHIL) studies. We help utilities, developers, and OEMs to make more informed decisions about capital investment on the grid of tomorrow.

Technical Laboratory Features

CHARACTERISTICS	VALUES
Power	Low to high power range; up to 12 MVA
Voltage	600V up to 34.5 kV
Frequency	45 TO 67 Hz output
Test Bays	2 independent parallel circuits
DC Power	5 MW, 1500V DC Power Supply
AC Resistive Load Bank DC Resistive Load Bank Capacitive Load Bank Inductive Load Bank	Available as needed
Ancillary Services	Instrumentation, data acquisition, strong floor, craning and rigging equipment
Onsite Technical Service & Support	Yes (Field Engineers available upon request)
International Standards Compliance	UL 1741, IEEE 1547.1, CSA C22.2 No. 107.1 and IEC 62109-1 and -2, IEC 61683 IEEE 1653.1, IEEE 1653.2, others

Kinectrics is registered to ISO 9001 QA program and has accreditation for ISO17025 and many other QA programs.



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