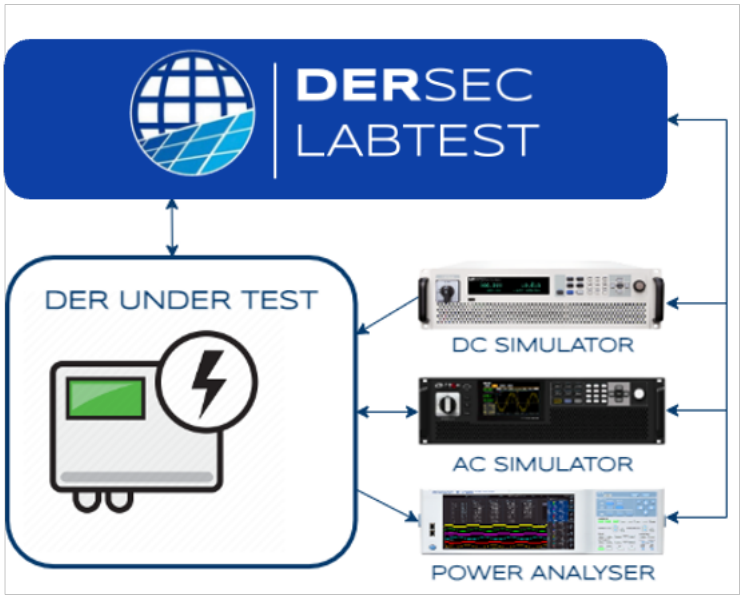
DER SECURITY

DERSec LabTEST

UL 1741 & IEEE 1547 TEST AUTOMATION PERFORMANCE

DERSec LabTest Pro automates Distributed Energy Resource (DER) testing by communicating with test harness hardware through programmatic interfaces. Test harness systems include a DC power supply, AC grid simulator, power analyzer with data acquisition system (DAQ), and the DER device under test. Test sequences based on interconnection standard requirements are executed, log data is captured, and the results are processed to assess the pass/fail performance of the DER Under Test.



SAVES TIME AND MONEY

LabTest Pro reduces the engineering labor required for UL 1741 SB and IEEE 1547 compliance testing by 100's of hours and enables powerful regression testing that speeds development and improves the quality of any DER product development process. Customers enjoy a **100% return on investment** for every UL 1741 SB certification project.

FAST, DETAILED, AUTOMATED IEEE 1547.1 TEST COVERAGE

Voltage Trip and Voltage Ride-Through	Temperature Stability
Frequency Trip and Frequency Ride-Through	ROCOF
Enter Service	Protection Against EMI
Constant Power Factor Mode	Surge Withstand Performance
Active Power-Reactive Power Mode	Paralleling Device
Voltage-Active Power Mode	Prioritization
Interoperability tests: Nameplate, Configuration, and Monitoring	Fault Current: Inverters & Rotating Machines
Voltage Disturbances in Continuous Region	Ground Fault Overvoltage
Voltage Phase-Angle Change Ride-Through	Load Rejection Overvoltage
Limit Active Power	Current Distortion - No Isolation
Voltage-Reactive Power Mode	Current Distortion - Isolation
Constant Reactive Power Mode	Limitation of DC Injection for Inverters
Frequency-Droop Capability	Open Phase
Unintentional Islanding	Persistence of DER Parameters

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FEATURE COMPARISON	SUNSPEC DASHBOARD	DERSEC LABTEST PLUS	DERSEC LABTEST PRO
DER Product Development Support			
Windows™ 10 web app to provide a dynamic user experience	●	●	●
Generate PICS• to express DER device capabilities in CSV files	●	●	●
Inspect SunSpec Modbus device register maps	●	●	●
Author vendor-defined SunSpec Modbus information models	●	●	●
Debug and trace SunSpec Modbus protocol exchanges		●	●
Spot-check and drill into test results		●	●
Define test scripts to exercise non-standard DER capabilities		●	●
Interconnection Certification Support			
Validate SunSpec Modbus for IEEE 1547 interface compliance		●	●
Generate SunSpec Modbus for IEEE 1547 compliance test reports		●	●
Validate IEEE 1547.1 clause 5 & 6 interoperability via SunSpec Modbus, IEEE 2030.5, & IEEE 1815 (DNP3) protocols			●
Generate conformance reports for UL 1741& IEEE 1547 standards		●	●
Validate IEEE 1547.1 clauses 5 & 6 electrical functions			●
Multi-vendor support for AC- and DC simulators, data acquisition systems, and power analyzers			●
Import/Export/Save lab configuration files			●
DER Simulation			
Software-based, IEEE 1547-2018 compliant, four-quadrant, three-phase inverter simulator with SunSpec Modbus interface	●	●	●
Software-based AC/DC simulators & data acquisition devices	●	●	●
Support for IEEE 2030.5 & IEEE 1815 (DNP3) DER protocols			●

SUPPORTED LAB EQUIPMENT

DER protocols: SunSpec Modbus, IEEE 2030.5, IEEE 1815 (DNP3)
DC Simulators: Ametek TerraSAS, Chroma, Keysight, Regatron, Rexgear, NHR, Elektro-Automatik
Grid Simulators: Ametek, Chroma, Elgar, Cinergia, Rexgear, Spitzenberger & Spiess, manual prompt
Power Analyzers & Data Acquisition System: Yokogawa WT, PX, and PZ models

• PICS = Protocol Information Conformance Statement

LABTEST PRO IS THE INDUSTRY LEADER IN FULLY AUTOMATED TESTING FOR DERS AND EV CHARGERS

Contact sales@dersec.io or call +1 (650) 206-9598 for more information