

**HYPOTULTRA™**

# Automated Dielectric Analyzer For Safety Agency Compliance Testing



**AC & DC Hipot with an insulation  
resistance tester in a single instrument  
Complete with a built-in IEEE-488 interface (GPIB)**



Instruments for Electrical Safety Testing



For over 58 years, Associated Research has been dedicated to providing electrical and electronic manufacturers with solutions to their safety testing applications. Over the years we have responded to the evolving needs of our customers by introducing a steady stream of new products designed to satisfy a wide range of safety testing needs. The HypotULTRA™ Dielectric Analyzer is the next

step in the evolution of electrical safety testing instrumentation. The 3-in-1 capabilities of HypotULTRA make it versatile enough to test to UL, CSA, VDE, IEC, TÜV and other agency requirements. The built-in IEEE interface makes HypotULTRA an ideal choice for automation applications.

## HypotULTRA™ Model 6550DT Features and Benefits

### Feature

- A complete 3-in-1 system that includes an AC hipot, DC hipot, Insulation Resistance Tester and IEEE interface in a single rack mount style cabinet.
- Full IEEE programmability.
- Maximum output current 20 milliamps AC, 10 milliamps DC.
- All parameters for the setups can be adjusted through a simple menu driven program by using a front panel keypad.
- Front panel LCD displays test parameters and results.
- Electronic ramp and dwell settings.
- Posi-Test™ current/resistance sensing system.
- Line and load regulation.
- Storage of up to 20 different test programs.
- PLC remote inputs & outputs.
- Security password system.
- User activated arc detection system.
- Optional scanning system available (HS-8).
- LabVIEW® compatible instrument driver software.

### Benefit

Allows users to maximize use of their rack systems since they can perform all these tests and only dedicate the space that this one instrument requires. The AC/DC Hipot and insulation resistance test capability makes this instrument versatile enough for safety agency requirements.

All functions of the instrument can be programmed over the IEEE bus which makes the instrument adaptable to an automated production environment.

A true hipot tester with enough output current to test highly capacitive loads, and meet UL's 120K OHM requirement.

Provides an easy and safe way to set trip currents and output voltages since all parameters are set without the high voltage activated. The easy to follow menu makes sure that the operator properly sets up each test mode.

Allows the operator to monitor the test. The display also holds the results after a test item failure so the operator can easily review test results.

Electronic ramping keeps test results consistent as well as reduces damage to sensitive products by providing a method of gradually bringing up the test voltage thus eliminating any high voltage spikes. A count-down feature indicates how much time is left on the test.

Ensures that a test item is properly connected by monitoring minimum and maximum levels of current and resistance.

Maintains the setting of the output voltage within 1% even if the load or the line voltage varies. This ensures results that are consistent and in compliance with safety agency requirements.

A real benefit for manufacturers that require different test parameters. Program memories can also be accessed through the remote control port so that a manufacturer can quickly toggle through the various programs without going into the set up menu.

This allows the QUADCHEK to be remotely monitored and set up completely through simple PLC relay control.

Only authorized personnel with a security password can change test parameters.

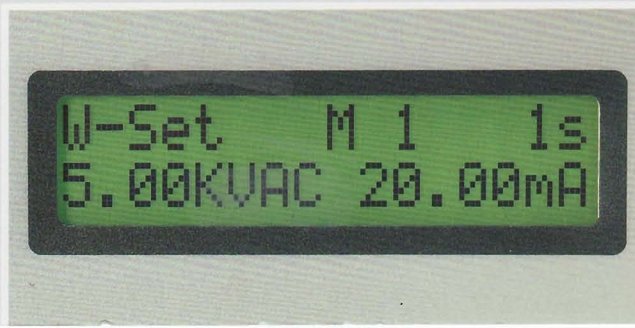
Many tests require the monitoring of arcing levels even if they do not exceed the maximum trip current level. The 6550DT allows the operator to select whether low level arcs should be detected. This makes this instrument flexible enough to test any product.

The optional scanning system is ideal for multi-point testing of a single item or multiple product testing. The HS-8 offers 8 individual high voltage outputs that can be setup as high, low or off. The HS-8 also has 4 ground bond outputs that can be individually selected.

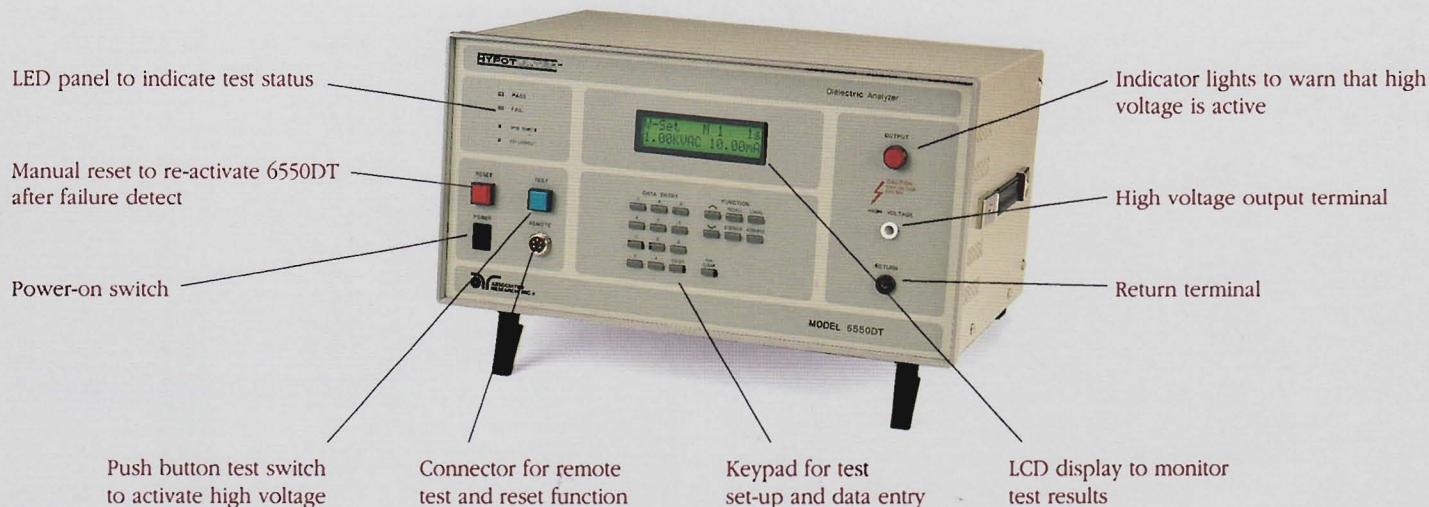
Customers already using National Instruments' LabVIEW® software can easily load the instrument driver software included with HypotULTRA and quickly begin testing.

The 6550DT includes rear panel high voltage and return connections to make it easier to build into a rack mount system.

Front panel display clearly indicates set-up parameters and test results.







## HypotULTRA™ Model 6550DT Specifications

General Specifications	
INTERFACE CAPABILITY	<ol style="list-style-type: none"> <li>1. GPIB (IEEE 488) Control of all parameters (AC &amp; DC test voltages, HI &amp; LO trip current, 50/60 Hz mode, Arc On-Off, Dwell Timer, Ramp time, HI &amp; LO Resistance trip, Storage &amp; Recall of memorized setups, Test &amp; Reset)</li> <li>2. Basic Remote control: Inputs - Test, Reset, Memory Functions Outputs - Pass, Fail, Remote Alarm, Test-in-Process</li> <li>3. Special port for connection to optional Scanning system to test up to 8 items simultaneously.</li> </ol>
MEMORY	Allows storage of up to 20 different test programs.
SECURITY	Password lockout capability to avoid unauthorized access to test set-up program.
LINE CORD	Detachable 7 ft. (2.13m) power cable terminated in a three prong grounding plug.
TERMINATIONS	5 ft. (1.52m) high voltage and return leads with clips.
MECHANICAL	Bench or rack mount with tilt up front feet Dimensions (w x h x d) 17 x 8.75 x 12.5 in. (432 x 222 x 317mm) Weight 33 lbs. (14.96kg) net
ENVIRONMENTAL	Operating Temperature – 32° - 113°F (0° - 45°C) Relative Humidity – 0 to 95%
CALIBRATION	Traceable to National Institute of Standards and Technology (NIST). Calibration controlled by software. Adjustments are made through front panel keypad in a restricted access calibration mode. Calibration information stored in non-volatile memory.

Functional Specifications	
DIELECTRIC WITHSTAND TEST MODE	
INPUT	115 VAC (±15%), 47-63 Hz, Single Phase 230 VAC (±15%), 47-63 Hz, Single Phase User Selectable
FUSE	115 VAC - 5 Amp, 230 VAC - 3 Amp
OUTPUT RATING	5kV @ 20mA AC & 10mA DC
OUTPUT ADJUSTMENT	0 - 5kV (AC & DC), 10 volt/step 0 - 20.00 mA AC & 10mA DC, 0.01mA/step
HIGH TRIP RANGE	0.01 - 20.00mA AC & 0.01 - 10.00mA DC Accuracy ± (2% of setting + 0.02 mA)
LOW TRIP RANGE	0.00 - 19.99mA AC & 0.00 - 9.99mA DC Accuracy ± (2% of setting + 0.02 mA)
FAILURE DETECTOR	Audible & Visual (LED & displayed on LCD) Meter holds breakdown voltage and leakage current reading after failure.
VOLTAGE DISPLAY	3 Digits, 5.00kV Full Scale, LCD Display Accuracy - Readings ± (2% of reading + 1 count) Settings ± (2% of setting + 5 volts)
CURRENT DISPLAY	4 Digits, 20.00mA Full Scale, LCD Display Accuracy - Readings ± (2% of reading + 0.02mA)
DC OUTPUT RIPPLE	≤ 5% (5k VDC, 20mA)
AC OUTPUT WAVE FORM	Sine wave, Distortion ≤ 1%
AC OUTPUT FREQUENCY	50 or 60 Hz, User Selectable
OUTPUT REGULATION	1% of setting from no load to full load
DWELL TIMER	1 - 999 seconds in 1 second increments or continuous, accuracy ± 0.1 seconds
RAMP TIMER	0 - 99 seconds in 1 second increments Accuracy ± 0.1 seconds
INSULATION RESISTANCE TEST MODE	
OUTPUT VOLTAGE RANGE	100 - 1000 Volts, 1 volt/step
VOLTAGE METERING	3 Digits, 0.00 - 1.00kV Accuracy ± (2% of reading + 1 count)
RESISTANCE METERING	3 Digits, 9.99GΩ Full Scale Accuracy ± (2% of reading + 1 count)
LIMIT RANGES	HI-Limit range = 0 - 9999MΩ LO-Limit range = 0 - 9999MΩ
DWELL TIMER	1 - 999 seconds in 1 second increments Accuracy ± 0.1 seconds