



**Model 6550DT Functional Specifications**

**DIELECTRIC WITHSTAND TEST MODE**

INPUT	115 VAC ( $\pm 15\%$ ), 47-63 Hz, Single Phase 230 VAC ( $\pm 15\%$ ), 47-63 Hz, Single Phase User Selectable
FUSE	115 VAC - 5 Amp, 230 VAC - 3 Amp
OUTPUT RATING	5kV @ 20 mAAC & 10 mADC
OUTPUT ADJUSTMENT	0 - 5kV (AC & DC), 10 volt/step 0 - 20.00 mAAC & 10 mADC, 0.01mA/step
HIGH TRIP RANGE	0.01 - 20.00 mAAC & 0.01 - 10.00 mADC 0.01mA/step. Accuracy $\pm (2\% \text{ of setting} + 0.02\text{mA})$
LOW TRIP RANGE	0.00 - 19.99 mAAC & 0.00 - 9.99 mADC 0.01mA/step. Accuracy $\pm (2\% \text{ of setting} + 0.02\text{mA})$
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 - Reading $\pm (2\% \text{ of reading} + 1 \text{ count})$ Setting $\pm (2\% \text{ of setting} + 5 \text{ volts})$
CURRENT DISPLAY	4 Digits, 20.00mA Full Scale, LCD Display Accuracy - Reading $\pm (2\% \text{ of reading} + 2 \text{ counts})$
DC OUTPUT RIPPLE	$\leq 5\%$ ripple in RMS, (5kVDC, 10mA)
AC OUTPUT WAVE FORM	Sine wave, Distortion $\leq 1\%$
AC OUTPUT FREQUENCY	50 or 60Hz, $\pm 100$ PPM, User Selectable
OUTPUT REGULATION	1% of setting from no load to full load
DWELL TIMER	0.5 - 99.9 seconds in 0.1 second increments or continuous. Accuracy $\pm 0.1$ seconds
RAMP TIMER	0.2 - 9.99 seconds in 0.1 second increments. Accuracy $\pm 0.1$ seconds

**Model 6550DT Functional Specifications Cont'd**
**INSULATION RESISTANCE TEST MODE**

OUTPUT VOLTAGE RANGE	100 - 1000 Volts, 1 volt/step
VOLTAGE METERING	3½ Digits, 0.00 - 1.00kV, 2 ranges Accuracy - ± ( 2% of reading + 1 count)
RESISTANCE METERING	3 Digits, 9.99GΩ Full Scale Accuracy: <u>0-1999MΩ</u> 100-499V ± ( 5% of reading + 2 counts) 500-1000V ± ( 3% of reading + 2 counts) <u>2000-9999MΩ</u> 100-499V ± ( 20% of reading + 2 counts) 500-1000V ± ( 10% of reading + 2 counts)
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

**Model 6550DT Functional Specifications Cont'd**
**GENERAL SPECIFICATIONS**

<b>INTERFACE CAPABILITY</b>	<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 or 8 individual points.</li> </ol>
<b>MEMORY</b>	Allows storage of up to 20 different test programs.
<b>SECURITY</b>	Password lockout capability to avoid unauthorized access to test set-up program.
<b>LINE CORD</b>	Detachable 7 ft. (2.13m) power cable terminated in a three prong grounding plug.
<b>TERMINATION'S</b>	5 ft.(1.52m) high voltage and return leads with clips.
<b>MECHANICAL</b>	Bench or rack mount with tilt up front feet Dimensions (w x h x d) 17 x 8.75 x 12.5in (432 x 222 x 317mm) Weight 33 lbs (14.96kg) net
<b>ENVIRONMENTAL</b>	Operating Temperature -32° - 113°F (0° - 45°C) Relative Humidity - 0 to 95%
<b>CALIBRATION</b>	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 info. stored in non-volatile memory.

## KEY FEATURES & BENEFITS OF MODEL 6550DT

1. 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.  
*This allows the user to maximize use of their rack mount system since they can perform all these tests and only dedicate the space that this one instrument would require.*
2. Full IEEE programmability comes as a standard feature in the 6550DT.  
*All functions of the instrument can be programmed over the IEEE bus which makes the instrument adaptable to an automated system which can control the instrument and retrieve all test results.*
3. Up to 20mA of current available in the AC hipot mode and 10 mA in the DC hipot mode.  
*This makes this instrument a true hipot tester with enough output current to test even highly capacitive loads.*
4. All parameters for the setups can be adjusted through a simple menu driven program by using a front panel keypad .  
*This provides the operator with 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.*
5. Front panel LCD displays test parameters and results.  
*The easy to view front panel LCD displays large characters and allows the operator to monitor the test. The display also holds the results after a test item failure so the operator can easily check the reason for a product failure.*
6. Electronic ramp and dwell settings.  
*This electronic ramp control helps keep test results consistent as well as reduce damage to sensitive products by providing a method to gradually bring up the test voltage and eliminate any high voltage spikes. The dwell timer also has a count down feature so the operator can clearly see how much time is left on the test.*
7. Hi and Low limits on both the hipot and insulation test modes.  
*This capability makes it possible to ensure that a test item was properly connected since the 6550DT can be set to look for minimum and maximum levels of current and resistance during the hipot and insulation resistance tests.*
8. Line and load regulation.  
*This system maintains the setting of the output voltage to within 1% even if the load or the line voltage vary to ensure that test results remain consistent and within safety agency requirements..*
9. Built in basic remote control.

*This makes the 6550DT versatile enough to allow for remote control operation of the test even when it is not used in the IEEE interface mode.*

10. Storage of up to 20 different test programs.  
*A real benefit for manufacturers that test different products. This makes it possible to store all the various test parameters required and quickly recall them for each of the different products that needs to be tested. Each program can store all the parameters of either the hipot or the insulation resistance test so you can quickly switch between different types of tests. Program memories can also be accessed through the remote control port so that a manufacturer can quickly toggle through the various programs without even going into the set up menu.*
11. Security password system.  
*This makes it possible to limit user access to the setup screens so that only authorized personnel with a security password can change test parameters. This ensures that the required test parameters can not be tampered with.*
12. Optional scanning system available for use with the model 6550DT.  
*The optional scanning system can cycle through up to eight test items or test up to 8 points on a single DUT to help manufacturers increase throughput in the final test area.*
13. Software calibration control.  
*The 6550DT is calibrated through the front panel keypad. All calibration information is stored in non-volatile memory. This allows the 6550DT to be completely calibrated without removing any covers and exposing the technician to hazardous voltages.*
14. User activated arc detection system.  
*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 which makes this instrument flexible enough to test any product.*
15. User Selectable output voltage frequencies of 50 or 60 hertz.  
*The 6550DT was designed for the global market. This feature makes it simple for the user to select the output frequency on the AC hipot test so that products can be tested at the same frequency they will be used at.*
16. The LCD display allows monitoring of current down to 10 microamps.  
*Many tests only allow a very low level of acceptable leakage current. The 6550DT has the reading resolution to monitor and set trip points at these low levels.*
17. Output voltage fine adjustment.  
*To make the 6550DT usable in all types of applications, a feature was added to allow the operator to manually bring the voltage up or down in 10 volt increments by simply pressing the up and down arrow keys. This makes it very easy to adjust the output voltage even while the 6550DT is in the dwell mode so you can analyze test results at different voltages.*

18. Heavy duty color coded switches.

*The 6550DT uses the same rugged switches that AR has used on other models of hipots for over 10 years which have proven to withstand even the roughest manufacturing environment. The switches are also color coded so that the operator can quickly distinguish between the TEST and RESET switch at a glance.*