



Advanced Test Equipment Corp.  
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**HYPOT<sup>®</sup> II**

# Dielectric Withstand Testers

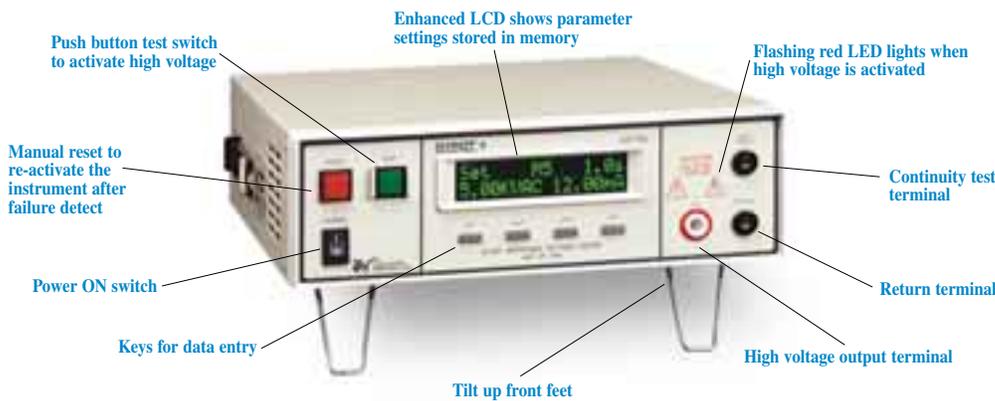
For Production Line Safety Agency Compliance Testing



Models 3500D, 3505D, 3565D, 3570D & 4500D

- **Microprocessor Digital Design With Software Friendly Menuing**
- **Electronic Ramp & Dwell**
- **Standard Ground Continuity Check**
- **Interconnects To Ground Bond Tester**
- **Tamper Proof Front Panel Controls**
- **Low-Current Sense**
- **Test Setup Memories**
- **Switchable 50/60Hz Testing**
- **PLC Remote Control**
- **500VA Model Available**





The Hypot®II includes full microprocessor control to enhance ease of use and operator safety. Additionally, it provides you with all the capabilities you need to meet hipot and continuity tests required by UL, CSA, VDE, IEC, TÜV and the European Norms including the Low Voltage Directive 73/23/EEC. Hypot II is available in AC (models 3500D and 3505D), AC/DC (model 3565D), AC/DC/IR (model 3570D), and a 500VA (model 4500D). The wide variety of models we offer on Hypot II provides you with the flexibility you need to meet a wide range of testing applications.

## HYPOT® II FEATURES & BENEFITS



Hypot II models 3500D, 3505D, 3565D and 3570D are UL listed.

**FEATURE** No load setup of trip current and output voltage  
**BENEFIT** This provides the operator with an easy and safe way to set trip currents and output voltages since parameters are set without high voltage activated.

**FEATURE** Tamper proof front panel controls  
**BENEFIT** No knobs, switches or pots to set or accidentally knock out of setting. Once setup is accomplished through software it is maintained in memory. Front panel controls can be locked via an ON/OFF setting in the calibration menu.

**FEATURE** Line and load regulation  
**BENEFIT** This system maintains the output voltage to within 1% of settings from no load to full load and over the line voltage range to ensure that test results remain consistent and within safety agency requirements.

**FEATURE** Interconnects to HYAMP® JR. model 3030D  
**BENEFIT** Interconnects to the model 3030D Ground Bond tester to form an entry-level system incorporating the two most common safety tests.

**FEATURE** Electronic dwell settings  
**BENEFIT** The electronic dwell control helps keep test results consistent by ensuring that the test duration is the same for each product tested.

**FEATURE** Front panel LCD displays test parameters and results  
**BENEFIT** A front panel LCD allows the operator to monitor the test. The display holds the results after a test item failure so that the operator can easily review the test results. Indications of failures are clearly displayed.

**FEATURE** Non-invasive front panel calibration  
**BENEFIT** Complete calibration is performed through the front panel. No need to open the instrument and expose a technician to high voltage.

**FEATURE** Meets safety agency standards  
**BENEFIT** Hypot II is CE and TÜV listed which means it has passed the tough design and performance requirements as called out in EN 61010 and IEC 1010 international safety standards. The CE mark means it can be used anywhere worldwide including all countries in Europe. Additionally, all of the 35xxD series Hypot II models are UL listed.

**FEATURE** Low-current sense\*  
**BENEFIT** Monitors the minimum level of current flow, thus ensuring that the device under test (DUT) is properly connected and that the hipot test is being performed.

**FEATURE** Electronic ramping\*  
**BENEFIT** Provides a gradual and timed method to increase output voltage to the DUT, minimizing any damage from quickly over-applying high voltage to sensitive DUT's.

**FEATURE** Test setup memories\*  
**BENEFIT** The operator can store and recall test setups, thus eliminating the need to re-enter setup information.

**FEATURE** Built-in Insulation Resistance test  
**BENEFIT** With the built-in IR test capability in model 3570D, an IR test may be performed alone or in conjunction with an AC or DC hipot test. The 2 MΩ range complies with agency specifications such as IEC.

\*Only available on 3505D, 3565D, 3570D and 4500D.

ACCESSORIES:		
Resistor Kit	Precision 1% resistor is ideal as a load to set current trip points. Meets 120 k ohm requirements.	35534
Black Stationary Probe	Provides an insulated fixed metallic contact point to a DUT for a return path.	35539
Foot Switch	Ideal for applications where an operator needs to start a test "hands off" the instrument.	35822
Retractable Probe	High voltage retractable 5 KV AC probe for safe testing and application of high voltage.	38081
Retractable Return Probe	This retractable probe is used on the return side of the Hypot II.	38082
Safe-T-Probe®	Test gun with trigger that controls retractable probe and activates instruments high voltage circuit.	38083
Adjustable Resistor Bank	Provides test loads from 120 K to 2.148 k ohms. 6 terminals with 12 settings. Helps verify regulation.	36956

OPTIONAL EQUIPMENT:		
Rear Panel Outputs	Allows access to the High Voltage & Return outputs from the rear panel for automated systems.	01
Remote Interlock	This option adds an interface for external safety interlock devices.	03
Digital Arc Detection	This allows you the capability to detect lower level arcing for diagnostic purposes.	04
Floating Return	Designed for testing ungrounded DUT's at low current levels.	05



## SYSTEM 3000

### A Complete Entry-Level System to Meet the Most Common Electrical Safety Compliance Tests

Combining any versions or models of Hypot II with the 3030D HYAMP®JR, creates an entry-level system. We call it the SYSTEM 3000. It comes complete with hardware and interconnection cables which allow you to perform Dielectric Withstand, Insulation Resistance and Ground Bond tests through a single DUT connection. This system was designed for manufacturers that need to comply with safety agency standards requiring high voltage tests of insulation and high current tests of the protective ground circuit.

## HYPOT® II SPECIFICATIONS

<b>INPUT VOLTAGE</b>	115/230 V selectable, ± 15% variation 47-63 Hz
<b>FUSE</b>	115 V AC, 230 V AC — 2 A fast acting 250 V AC
<b>OUTPUT</b>	Rating AC 0-5000 V, 2 V/step, 12 mA DC 0-6000 V, 2 V/step, 5 mA Regulation: ± (1% of output + 5 V)
<b>VOLTAGE SETTING</b>	0 V-Max output rating, 10 V/step Accuracy: ± (2% of Setting + 5 V) (relative to displayed output) Can be adjusted during operation via UP and DOWN arrow keys
<b>OUTPUT FREQUENCY</b>	3500D & 3505D: 50/60 Hz selectable 3565D & 3570D: DC & 50/60 Hz selectable
<b>WAVE FORM</b>	Sine wave, Distortion: < 1% THD
<b>RIPPLE</b>	< 5% at 6 KV DC/5 mA
<b>DWELL TIME SETTING</b>	0 & 0.2-999.9 secs., 0.1 sec./step "0" for continuous running Ramp = 0.1 secs., fixed (3500D only)
<b>FAILURE SETTINGS</b>	AC mode High limit: 0.10 - 12.00 mA, 0.01 mA/step Accuracy: ± (2% of setting + 0.02 mA) DC mode High limit: 0.02 - 5.00 mA, 0.01 mA/step Accuracy: ± (2% of setting + 0.02 mA)
<b>METERING</b>	Voltmeter (3 digits) Range: AC 0.00 - 5.00 KV DC 0.00 - 6.00 KV Resolution: 0.01 KV Accuracy: ± (2% of reading + 10 V) Ammeter (4 digits) Range: AC 0.10 - 12.00 mA DC 0.02 - 5.00 mA Resolution: 0.01 mA Accuracy: ± (2% of reading + 0.02 mA)
<b>TIMER DISPLAY</b>	Range: 0.0 - 999.9 secs. Resolution: 0.1 sec. Accuracy: ± (0.1% of reading + 0.05 secs.)
<b>GROUND CONTINUITY CHECK</b>	Current: DC 0.1 A ± 0.01 A, fixed Max. ground resistance: 1 ohm ± 0.1 ohm, fixed

<b>REMOTE CONTROL &amp; SIGNAL OUTPUT</b>	The following input & output signals are provided through the 9 pin D type connector: 1. Inputs: test and reset 2. Outputs: pass, fail, & test in process
<b>SECURITY</b>	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>TERMINATIONS</b>	5 ft. (1.52 m) high voltage & return leads with clips & a standard U.S. style (NEMA 5-15) remote receptacle box for testing items terminated with a line cord, International receptacles also available.
<b>MECHANICAL</b>	Tilt up front feet Dimensions: (W x H x D) 11 x 3.5 x 14.56 in. (280 x 89 x 370 mm) Weight: 20 lbs. (9 Kgs)
<b>ENVIRONMENTAL</b>	Operating Temperature: 32° - 113° F (0° - 45° C) Relative Humidity: 0 to 95%
<b>CALIBRATION</b>	All adjustments are made through front panel.
<b>LOW CURRENT SENSE*</b>	3505D: 0.00 - 12.00 mA AC Accuracy: ± (2% of setting + 0.02 mA) 3565D & 3570D: 0.00 - 12.00 mA AC, 0.00 - 5.00 mA DC Accuracy: ± (2% of setting + 0.02 mA)
<b>RAMP TIMER*</b>	0.2 - 999.9 secs. in 0.1 sec. increments 0 Ramp setting = 0.1 secs. fixed Accuracy: ±10 milliseconds
<b>MEMORY*</b>	Allows storage of up to 5 different test programs
<b>IR TEST**</b>	Range: 1 MΩ - 1000 MΩ Accuracy: ± (3% of reading + 2 counts) > 500 Volts ± (7% of reading + 2 counts) < 500 Volts Voltage: 100 - 1000 V DC in 10 V steps Accuracy: ± (2% of output + 5 V) Failure Settings: High/Lo limit 1 MΩ - 1000 MΩ IR Delay Range: 0, 0.5 - 999.9 secs. (0 = constant) Resolution: 0.1 secs. Accuracy: ± (0.1% of reading + 0.05 secs.)

\*Only available on 3505D, 3565D & 3570D.

\*\*Only available on 3570D.

## ADDITIONAL SPECIFICATIONS MODEL 4500D (500 VA)



<b>INPUT VOLTAGE</b>	115/230 V selectable, ± 15% variation 50/60 Hz ± 5%
<b>FUSE</b>	115 V AC, 230 V AC — 15 A fast acting 250 V AC
<b>OUTPUT</b>	Rating AC 0 - 5000 V, 10 V/step, 100 mA Regulation: ± (1% of output + 5 V)
<b>FAILURE SETTINGS</b>	High limit: 0.10 - 99.99 mA, 0.01 mA/step Low limit: 0.00 - 100.00 mA Accuracy: ± (2% of setting + 0.05 mA)
<b>METERING</b>	Voltmeter (4 digits) - Range: AC 0.00 - 5.00 KV, Resolution: 0.01 KV, Accuracy: ± (2% of reading + 10 V) Ammeter (4 digits) - Range: AC 0.10 - 99.99 mA, Resolution: 0.01 mA, Accuracy: ± (2% of reading + 0.05 mA)
<b>MECHANICAL</b>	Tilt up front feet. Dimensions: (W x H x D) 16.92 x 5.24 x 11.8 in. (430 x 133 x 300 mm) Weight: 62 lbs. (28 Kgs)

All other instrument specifications match the grids shown above.