
# HYPOT® III

## Production Line Dielectric Withstand Testers

Hypot® III is a bench top Dielectric Withstand tester with an enhanced graphic LCD. It features three testers: the 3705 an AC Hipot tester, the 3765 an AC / DC Hipot tester and the 3770 an AC / DC Hipot tester with built-in Insulation Resistance testing. All testers feature an RS-232 interface for entry-level automation.

**Model 3705** - **5KV AC Hipot Tester**

**Model 3765** - **5KV AC, 6KV DC Hipot Tester**

**Model 3770** - **5KV AC, 6KV DC Hipot & Insulation Resistance Tester**

### *Features and Benefits*

- RS-232 interface standard for entry-level automation
- Patented SmartGFI® safety circuit protects the operator from shock hazards
- Patented VERI-CHEK® feature prompts users through steps to validate the instrument's operation
- Patented CAL-ALERT® feature alerts the operator that the tester is due for re-calibration
- Built-in adjustable Continuity test for checking basic continuity
- Graphic LCD provides intuitive menu system to simplify the entire testing process from set-up to results
- Remote Safety Interlock feature prevents the high-voltage from being activated without the interlock enabled
- 10 Memories with 3 Steps per memory for storing and recalling test parameters
- PLC Remote Control for simple remote operation
- Interconnects with a HYAMP III Associated Research Ground Bond tester to form a complete test system
- Digitally controlled arc detection circuit allows the operator to program sensitivity levels for detecting arcs
- Minimum and maximum trip settings for safer and more accurate testing
- Comes complete with an adapter box for products terminated in a line cord

U.S. Patents: 6,744,259, 6,549,385, 6,515,484, 6,054,865.
Other patents pending.

Safety agency listed.

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## Input Specifications

| | |
|---|---|
| Voltage | 115/230 VAC ± 10%, user selectable |
| Frequency | 50/60 Hz ± 5% |
| Fuse | 3.15 A, fast acting 250 VAC |

## Dielectric Withstand Test Mode

| | | |
|---|---|---|
| Output Rating | | 5000 V @ 20 mA AC<br>6000 V @ 7.5 mA DC |
| Voltage Setting | | Range: 0 - 5.00 KV AC<br>0 - 6.00 KV DC<br>Resolution: 0.01 KV<br>Accuracy: ± (2% of setting + 5 V) |
| Maximum Limit | AC | Range: 0.00 - 20.00 mA<br>Resolution: 0.01 mA |
| | DC | Range: 0 - 7500 µA<br>Resolution: 1 µA<br>Accuracy: AC and DC ± (2% of setting + 2 counts) |
| Minimum Limit | AC | Range: 0.000 - 9.999 mA<br>Resolution: 0.001 mA |
| | DC | Range: 0.0 - 999.9 µA<br>Resolution: 0.1 µA<br>Accuracy: AC and DC ± (2% of setting + 2 counts) |
| Arc Detection | | Range: 0 - 9, 0 disabled |
| Ground Fault Interrupt | | GFI Trip Current: 450 µA max (AC or DC)<br>HV Shut Down Speed: < 1ms |
| Current Display | | Auto Range |
| | AC | Range 1: 0.000 - 3.500 mA<br>Resolution: 0.001 mA<br>Range 2: 3.00 - 20.00 mA<br>Resolution: 0.01 mA |
| | DC | Range 1: 0.0 µA - 350.0 µA<br>Resolution: 1: 0.1 µA<br>Range 2: 0.300 mA - 3.500 mA<br>Resolution: 0.001 mA<br>Range 3: 3.00 mA - 7.50 mA<br>Resolution: 0.01 mA<br>Accuracy: All Ranges ± (2% of reading + 2 counts) |
| DC Output Ripple | | ≤ 5% Ripple RMS at 6 KV DC @ 7.5 mA, Resistive Load |
| Discharge Time | | ≤ 200 ms<br>The maximum capacitive load vs output voltage:<br>0.20 µF < 1 KV 0.050 µF < 4 KV<br>0.10 µF < 2 KV 0.040 µF < 5 KV<br>0.06 µF < 3 KV 0.015 µF < 6 KV |
| AC Voltage Waveform | | Sine Wave, Crest Factor = 1.3 - 1.5 |
| Output Frequency | | Range: 50 or 60 HZ, User Selectable |
| Output Voltage Regulation | | ± (1% of output + 5 V) from no load to full load and over input voltage range. |
| Dwell Timer | | Range: AC 0, 0.3 - 999.9 sec (0 = Continuous)<br>DC 0, 0.4 - 999.9 sec (0 = Continuous)<br>Accuracy: ± (0.1% of reading + 0.05 sec) |
| Ramp Timer | | Range: Ramp-Up: 0.1 - 999.9 sec<br>Ramp-Down: AC 0.0 - 999.9 sec<br>DC 1.0 - 999.9 sec (0=OFF)<br>Accuracy: ± (0.1% of reading + 0.05 sec) |

## Dielectric Withstand Test Mode (continued)

| | |
|---|---|
| Ground Continuity Current | DC 0.1 A ± 0.01 A, fixed |
| Ground Continuity Maximum Limit Minimum Limit | Range: 0.0 Ω - 1.50 Ω<br>Resolution: 0.01 Ω<br>Accuracy: ± (3% of setting + 0.02 Ω) |
| Ground Continuity Auto Offset | Range: 0.0 Ω - 0.50 Ω<br>Resolution: 0.01 Ω<br>Accuracy: ± (3% of setting + 0.02 Ω) |

## Insulation Resistance Test Mode

| | |
|---|---|
| Voltage Setting | Range: 30 - 1000 VDC<br>Resolution: 1 V<br>Accuracy: ± (2% of setting + 5 V) |
| Resistance Display | Range: 1 - 9999 MΩ (4 Digit, Auto Ranging)<br>Resolution: 500 VDC - 1000 VDC<br>MΩ MΩ<br>0.001 1.000 - 9.999<br>0.01 10.00 - 99.99<br>0.1 100.0 - 999.9<br>1 1000 - 9999 |
| | Accuracy: ± (2% of reading + 2 counts) at test voltage 500 - 1000 V and 1 - 999.9 MΩ<br>± (5% of reading + 2 counts) at test voltage 500 - 1000 V and 1000 - 9999 MΩ<br>± (8% of reading + 2 counts) at test voltage 30 - 500 V and 1 - 1000 MΩ |
| Maximum Limit | Range: 0, 1 - 9999 MΩ (0=OFF)<br>Resolution: 1 MΩ<br>Accuracy: Same as Resistance Display |
| Minimum Limit | Range: 1 - 9999 MΩ<br>Resolution: 1 MΩ<br>Accuracy: Same as Resistance Display |
| Ramp Timer | Range: Ramp-Up: 0.1 - 999.9 sec<br>Ramp-Down: 1.0 - 999.9 sec (0=OFF)<br>Resolution: 0.1 sec<br>Accuracy: ± (0.1% of reading + 0.05 sec) |
| Delay Timer | Range: 0, 0.5 - 999.9 sec (0 = Continuous)<br>Resolution: 0.1 sec<br>Accuracy: ± (0.1% of reading + 0.05 sec) |
| GFI Trip Current: | 450 µA max |
| HV Shut Down Speed: | < 1 ms |

## General Specifications

| | |
|---|---|
| Mechanical | Bench or rack mount with tilt up feet. |
| Dimensions | (W x H x D) 8.46 x 3.5 x 14.57 in.<br>(215 x 89 x 370 mm) |
| Weight | 20.96 lbs (9.53 kgs) |
| Interface | RS-232 interface standard for entry-level automation. |
| Memory | 10 Memories, 3 steps per memory. |

Specifications subject to change without notice.

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