ALL-NEW

# HypotULTRA®

## THE MOST FLEXIBLE AND FEATURE-RICH AUTOMATED DIELECTRIC ANALYZER AVAILABLE

SCAN FOR QUICK START VIDEO

2 year Warranty

The best dielectric analyzer available just got better. We've combined superior testing power and ease of use, with an innovative sleek design that showcases all of our productivity and safety enhancing features. Our touch screen capability allows you to interact with your instrument as intuitively as you would with a smart phone. This simplifies setting up your system and test parameters. Get even more out of your instrument with direct barcode connection, this all-new feature increases efficiency and production throughput. HypotULTRA® will improve the productivity and safety of your production line in every single way.

## AVAILABLE INTERFACES

USB · RS-232 · Ethernet · GPIB

## SAFETY & PRODUCTIVITY FEATURES

**SmartGFI®** — Automatic operator shock protection

**Remote Safety Interlock** — Easily disable HV output

**Data Transfer** — Easily import/export test files and data via USB

**Barcode Capability** — Direct barcode connection

**Multiple Languages** — Multi-language user interface

**BatchTEST®** — Reduce test time with simultaneous DUT testing

**ProVOLT™** — Multi-dwell cycles at different voltages for ACW/DCW/IR

**Internal Scanner** — Available with optional HV scanning matrix

**Modular Scanner** — Compatible with SC6540 scanning matrix

**FaiICHEK™** — Confirms failure detection

**Prompt & Hold** — Provides alerts & instructions between tests

**Touch Screen** — Interact with your instrument like a smartphone

**Autoware3** — Advanced Automation Control Software

**Advanced User Security** — Customize ID & password protection

**Ramp-HI®** — Reduce ramp time during DC Hipot

**Charge-LO®** — Confirms proper DUT connection

**Accredited Cal** — Accredited calibration options available

**Negative DC Hipot** — Reverse polarity DC Hipot (option)

## Find the Right Model that Fits Your Testing Needs

| | AC Hipot | 500 VA | DC Hipot | Insulation Resistance | Ground Continuity |
|---|---|---|---|---|---|
| **7800*** | • | • | • | • | • |
| **7820** | • | | | | • |
| **7850** | • | | • | • | • |

*meets 200 mA short circuit requirements

## INPUT SPECIFICATIONS

| | |
|---|---|
| Voltage | 100 - 120 VAC / 200 - 240 VAC±10% Auto Range |
| Frequency | 50/60 Hz ± 5%" |
| Fuse | 7820 and 7850: 6.3A / 250 VAC Slow-Blow,<br>7800: 15 A / 250 VAC Fast- Blow |

## AC WITHSTAND TEST MODE

| | | |
|---|---|---|
| Output Voltage | Range: | 0-5,000 VAC |
| | Resolution: | 1 VAC |
| | Accuracy: | ± (2% of setting + 5 V) |
| Output Frequency | 50/60 Hz ± 0.1% , User Selection | |
| Output Waveform | Sine Wave , Crest Factor = 1.3 - 1.5 | |
| Output Regulation | ±(1% of output + 5 V) | |
| HI and LO-Limit | Total Range: 0.000 – 9.999 mA | |
| | Resolution: 0.001 mA | |
| | Range: 10.00 – 30.00 mA | |
| | (10-99.99 mA, Model 7800) | |
| | Resolution: 0.01 mA | |
| | Accuracy: 7820 & 7850 ± (2% of setting + 2 counts), 7800: ± (2% of setting + 6 counts) | |
| | Real Range: 0.000 – 9.999 mA | |
| | Resolution: 0.001 mA | |
| | Range: 10.00 – 30.00 mA | |
| | (10-99.99 mA, Models 7800) | |
| | Resolution: 0.01 mA | |
| | Accuracy: ± (3% of setting + 50 µA) | |

| | |
|---|---|
| Ramp Up Timer | Range: 0.1 – 999.9 sec. |
| Ramp Down Timer | Range: 0.0 – 999.9 sec. |
| Dwell Timer | Range: 0, 0.2 – 999.9 sec. (0=Continuous) |
| Ground Continuity Current | Current: DC 0.1 A ± 0.01 A, fixed |
| | Max. ground resistance: 1.0 Ω ± 0.1 Ω |
| Arc Detection | Range: 1 - 9 ranges (9 is most sensitive) |

## DC WITHSTAND VOLTAGE (7850 & 7800 ONLY)

| | |
|---|---|
| Output Voltage | Range: 0 -6000 VDC |
| DC Output Ripple | <4 % (6KV/10mA at Resistive Load) |
| HI and LO-Limit | Range: 0.0000-0.9999 µA |
| | Resolution: 0.0001 µA |
| | Accuracy: ± (2% of setting + 10 counts) |
| | Low Range is ON. |
| | Range: 1.000 - 9.999 µA |
| | Resolution: 0.001 µA |
| | Accuracy: ± (2% of setting + 10 counts) |
| | Low Range is ON. |
| | Range: 10.00 - 99.99 µA |
| | Resolution: 0.01 µA |
| | Accuracy: ± (2% of setting + 10 counts) |
| | Low Range is ON. |
| | Range: 100.0 - 999.9 µA |
| | Resolution: 0.1 µA |
| | Accuracy: ± (2% of setting + 2 counts) |
| | Range: 1000 - 10000 µA |
| | Resolution: 1 µA |
| | Accuracy: ± (2% of setting + 2 counts) |

| | |
|---|---|
| Ramp Up Timer | Range: 0.4 - 999.9 sec.<br>0.5-999.9 sec., Low Range is ON |
| Ramp Down Timer | Range: 0.0, 1.0 - 999.9 sec. (0=OFF) |
| Dwell Timer | Range: 0, 0.4 - 999.9 sec.,(0=Continuous)<br>0,1.0-999.9 sec., Low Range is ON |
| RAMP-HI Selectable | Range: 0-10 mA, Selectable |
| Charge-LO | Range: 0.0 - 350.0 µA DC or Auto Set, |
| Discharge Time | < 50 ms for no load<br>< 100 ms for capacitive load |

| | | |
|---|---|---|
| Maximum Capacitive Load DC Mode | 1µF < 1kV | 0.08 µF < 4 kV |
| | 0.75 µF < 2 kV | 0.04 µF < 5 kV |
| | 0.5 µF < 3 kV | 0.015 µF < 6 kV |
| Arc Detection | Range: 1 - 9 ranges (9 is most sensitive) | |

## INSULATION RESISTANCE (7850 & 7800 ONLY)

| | | |
|---|---|---|
| Output Voltage, DC | Range: | 10-1,000 VDC |
| | Resolution: | 1 VDC |
| | Accuracy: | ± (2% of reading + 2 counts) |
| | Range: | 1001-6000 VDC |
| | Resolution: | 1 VDC |
| | Accuracy: | ± (2% of setting + 5 V) |

| | |
|---|---|
| Charging Current | Maximum > 10 mA peak |
| HI & LO-Limit | Range: 0.10 M – 99.99 MΩ (HI-Limit: 0 = OFF) |
| | 1.00 - 99.99 when voltage > 1,000 V |
| | Resolution: 0.01 M |
| | Accuracy: ±(2% if setting + 2 counts) |
| | Range: 100.0 M – 999.9 M |
| | Resolution: 0.1 M |
| | Accuracy: 1,000-9,999 ±(5% if setting + 2 counts) |
| | Range: 1,000 M – 50,000 M |
| | Resolution: 1 M |
| | Accuracy: 10,000-50,000 M ±(15% if setting + 2 counts) |

| | |
|---|---|
| Ramp Up Timer | Range: 0.1 – 999.9 sec. |
| Ramp Down Timer | Range: 0.0, 1.0 – 999.9 sec. |
| Dwell Timer | Range: 0, 0.5 – 999.9 sec. or 0 |
| Delay Timer | Range: 0, 0.5 – 999.9 sec. or 0 |
| Charge-LO | 0.000-3.500 µA or Auto Set |

## CONTINUITY TEST

| | |
|---|---|
| Output Current, DC | 1A for 0.000 - 1.000 Ω |
| | 0.1A for 1.01-10.00 Ω |
| | 0.01 A for 10.01 - 100 Ω |
| | 0.001 A for 101-1,000 Ω |
| | 0.0001 A for 1001-10,000 Ω |
| | 1 A is Max |

Resistance Display Max & Min

| | |
|---|---|
| Max-Lmt | Range: 0.000 – 1.000 Ω |
| | Resolution: 0.001 Ω |
| | Accuracy: ± (1 % of setting + 3 counts) |
| | Range: 1.01 – 10.00 Ω |
| | Resolution: 0.01 Ω |
| | Accuracy: ± (1 % of setting + 3 counts) |
| | Range: 10.1 – 100.0 Ω |
| | Resolution: 0.1 Ω |
| | Accuracy: ± (1 % of setting + 3 counts) |
| | Range: 101 – 1,000 Ω |
| | Resolution: 1 Ω |
| | Accuracy: ± (1 % of setting + 3 counts) |
| | Range: 1001 – 10,000 Ω |
| | Resolution: 1 Ω |
| | Accuracy: ± (1 % of setting + 10 counts) |
| Dwell Timer | Range: 0, 0.4 – 999.9 sec. (0=Continuous) |
| Resistance Offset | Range: 0.000-10.00 Ω |

## GENERAL SPECIFICATIONS

| | |
|---|---|
| Memory | 2,000 steps<br>200 steps per test file max |
| Interface | Standard: USB/RS232,<br>Optional: GPIB (IEEE-488.2),<br>RS232/Ethernet or USB Printer. |
| SmartGFI® | 0, 0.4-5.0-5.0mA (0=OFF) |
| Dimensions | Bench or rack mount (2U height) with tilt up front feet<br>(w x h x d) 16.92 x 3.50 x 15.75in,<br>(43 x 88.1 x 400) mm |
| Weight | 7820 = 34 lb (15.4 kg), 7850 = 35 lb (15.9 kg),<br>7800 = 45 lb (20.4 kg) |

Why We Use Counts

Associated Research publishes some specifications using “counts” which allows us to provide a better indication of the tester’s capabilities across measurement ranges. A “count” refers to the lowest resolution of the display for a given measurement range. For example, if the resolution for voltage is 1 V then 2 counts=2 V.

Specifications subject to change without notice.