HypotULTRA®

The Most Flexible and Feature-Rich Automated Dielectric Analyzer Available

Our HypotULTRA® models provide all the tools you need to modernize your production line with best-in-class 4-in-1 test capability and a slim 2U design. We've added 40A AC Ground Bond test capability to HypotULTRA's already impressive feature list for manufacturers that aim to adopt best testing practices without sacrificing productivity. Whether you're looking to improve traceability with onboard data storage, increase efficiency with our intuitive touch screen interface and direct barcode scanner connection, or automate with a variety of communication interfaces, HypotULTRA was designed to take your production line to the next level.

Find the Model that Fits Your Testing Needs

	AC Hipot	DC Hipot	Ground Bond	Ground Continuity	Insulation Resistance	EN 50191 COMPLIANT
7800	500 VA*	•		•	•	
7804	•	•	•	•	•	•
7820	•			•		•
7850	•	•		•	•	•
7854	500 VA*	•	•	•	•	

*Meets 200 mA short circuit requirements

AVAILABLE INTERFACES

- **USB**
- **RS-232**
- **Ethernet** (Optional)
- **GPIB** (Optional)

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
- **Ground Bond Voltage Drop** Monitor voltage drop vs resistance
- **ProVOLT®** Multi-dwell cycles at different voltages for ACW/DCW/IR
- **Internal Multiplexer** Available with optional HV multiplexer (4 or 8 ports)
- **Modular Multiplexer** Compatible with SC6540 multiplexers
- **FailCHEK™** Confirms failure detection
- **Prompt & Hold** Provides alerts & instructions between tests
- **WithStand®** Automation Software
- **Advanced User Security** Customize ID & password protection
- **Ramp-HI®** Reduce ramp time during DC Hipot
- **Charge-LO®** Confirms proper DUT connection
- **PLC Remote** Basic PLC relay control
- **Negative** DC Hipot & Insulation Resistance (Optional)
- **On Board Data Storage** Save up to 100,000 Test Results on-board

INPUT SPECIFICATIONS

Voltage	100 – 120 VAC / 200 – 240 VAC ± 10% Auto Range	
Frequency	50/60 Hz ± 5%	
Fuse	7804/7820/7850:	6.3A, Slow Blow 250 VAC
	7800/7854:	15A, Fast Blow 250 VAC

AC WITHSTAND TEST MODE (All Models)

Output Voltage	Range: Resolution: Accuracy:	0 – 5,000 VAC 1 VAC ± (2% of setting + 5V)
Output Frequency	50/60 Hz ± 0.1%, User Selection	
Output Waveform	Sine Wave, Crest Factor = 1.3 – 1.5	
Output Regulation	± (1% of output + 5V)	
HI and LO-Limit Total	**Total**	
	Range: Resolution: Range: Resolution: Accuracy:	0.000 – 9.999 mA 0.001 mA 10.00 – 40.00 mA (10 – 99.99 mA, Models 7800/7854) 0.01 mA ± (2% of setting + 2 counts) 7804/7820/7850 ± (2% of setting + 6 counts) 7800/7854
	Real	
	Range: Resolution: Range: Resolution: Accuracy:	0.000 – 9.999 mA 0.001 mA 10.00 – 40.00 mA (10 – 99.99 mA 7800/7854) 0.01 mA ± (3% of setting + 50 µA)
Ramp Up Timer **Ramp Down Timer** **Dwell Timer**	Range: Range: Range:	0.1 – 999.9 sec 0.0 – 999.9 sec 0, 0.2 – 999.9 sec (0=Continuous)
Ground Continuity	Current: DC 0.1A ± 0.01A, fixed	
Current	Max. Ground Resistance: 1.0 Ω ± 0.1 Ω	
Arc Detection	Range:	1 – 9 (9 is most sensitive)

DC WITHSTAND TEST MODE (Models 7800/7804/7850 & 7854 Only)

Output Voltage	Range: Resolution: Accuracy:	0 – 6000 VDC 1 V ± (2% of setting + 5 V)
DC Output Ripple	<4% (6 KV/10 mA at Resistive Load)	
HI and LO-Limit	Range: Resolution: Accuracy:	0.0000 – 0.9999 µA 0.0001 µA ± (2% of setting + 10 counts), Low Range is ON
	Range: Resolution: Accuracy:	1.000 – 9.999 µA 0.001 µA ± (2% of setting + 10 counts), Low Range is ON
	Range: Resolution: Accuracy:	10.00 – 99.99 µA 0.01 µA ± (2% of setting + 10 counts), Low Range is ON
	Range: Resolution: Accuracy:	100.0 – 999.9 µA 0.1 µA ± (2% of setting + 2 counts)
	Range: Resolution: Accuracy:	1,000 – 20,000 µA range (7804/54) 1,000 – 10,000µA range (7800/50) 1 µA ± (2% of setting + 2 counts)
Ramp Up Timer	Range:	0.4 - 999.9 sec, Low Range is OFF 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) 0, 1.0 – 999.9 sec, Low Range is ON
Ramp-HI Selectable	Range:	0 – 20 mA selectable
Charge-LO	Range:	0.0 – 350.0 µA DC or Auto Set
Discharge Time	< 50 ms for no load, < 100 ms for capacitive load	
Maximum Capacitive Load DC Mode	1µF < 1kV 0.75 µF < 2 kV 0.5 µF < 3 kV	0.0 µF < 4 kV 0.04 µF < 5 kV 0.015 µF < 6 kV
Arc Detection	Range:	1 – 9 (9 is most sensitive)

INSULATION RESISTANCE MODE (Models 7800/7804/7850 & 7854 Only)

Output Voltage, DC	Range: Resolution: Accuracy:	10 – 1,000 VDC 1 VDC ± (2% of setting + 2 counts)
	Range: Resolution: Accuracy:	1,001 – 6,000 VDC 1 VDC ± (2% of setting + 5 V)

INSULATION RESISTANCE MODE (Models 7800/7804/7850 & 7854 Only)

Charging Current HI and LO-Limit	Maximum > 20 mA peak	
	Range: Resolution: Accuracy:	0.10 MΩ – 99.9 MΩ (HI-Limit: 0=OFF) 0.01 MΩ ± (2% of setting + 2 counts)
	Range: Resolution: Accuracy:	100.0 MΩ – 999.9 MΩ 0.1 MΩ 1,000 – 9,999 ± (5% of setting + 2 counts)
	Range: Resolution: Accuracy:	1,000 MΩ – 50,000 MΩ 1 MΩ 10,000 – 50,000 ± (15% of setting + 2 counts)
Ramp Up Timer	Range:	0.1 – 999.9 sec
Ramp Down Timer	Range:	1.0 – 999.9 sec
Dwell Timer	Range:	0.5 – 999.9 sec (0=Continuous)
Delay Timer	Range:	0.5 – 999.9 sec
Charge-LO	0.000 – 3.500 µA or Auto Set	

CONTINUITY TEST MODE (All Models)

Output Current, DC	1 A for 0.000 – 1.000 Ω, 0.1 A 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: Resolution: Accuracy:	0.000 – 1.000 Ω 0.001 Ω ± (1% of setting + 3 counts)
	Range: Resolution: Accuracy:	1.01 – 10.00 Ω 0.01 Ω ± (1% of setting + 3 counts)
	Range: Resolution: Accuracy:	10.1 – 100.0 Ω 0.1 Ω ± (1% of setting + 3 counts)
	Range: Resolution: Accuracy:	101 – 1,000 Ω 1 Ω ± (1% of setting + 3 counts)
	Range: Resolution: Accuracy:	1,001 – 10,000 Ω 1 Ω ± (1% of setting + 10 counts)
Dwell Timer	Range:	0, 0.4 – 999.9 sec (0=Continuous)
Resistance Offset	Range:	0.000 – 10.00 Ω

GROUND BOND TEST MODE (Models 7804 & 7854 Only)

Output Voltage (Open Circuit Voltage)	Range: Resolution: Accuracy:	3.00 – 8.00 VAC 0.01 VAC ± (2% of setting + 3 counts) Open Circuit
Output Current	Range: Resolution: Accuracy:	1.00 – 40.00 A 0.01 A ± (2% of setting + 2 counts)
Maximum Loading	1.00 – 10.00 A, 0 – 600 mΩ 10.01 – 30.00 A, 0 – 200 mΩ 30.01 – 40.00 A, 0 – 150 mΩ	
HI and LO-Limit	Range: Resolution: Accuracy:	0 – 150 mΩ for 30.01 – 40.00 A 0 – 200 mΩ for 10.01 – 30.00 A 0 – 600 mΩ for 1.00 – 10.01 A 1 mΩ ± (2% of setting + 2 counts)
	Range: Resolution: Accuracy:	0 – 600 mΩ 1 mΩ ± (3% of setting + 3 counts)
Dwell Timer	Range:	0, 0.5 – 999.9 sec (0=Continuous)
Milliohm Offset	0 – 200 mΩ	
Voltage Offset	0.0 - 6.0 V	

GENERAL SPECIFICATIONS

Memory	2,000 steps, 200 steps per test file max 100,000 test results
Mechanical	Bench or rackmount (2U height) with feet
Interface	Standard: USB, RS-232 Optional: GPIB (IEEE-488.2), Ethernet or USB Printer
SmartGFI®	0, 0.4 – 5.0 mA (0=OFF)
Dimensions (W x H x D)	16.92" x 3.50" x 15.75" (430 x 88.1 x 400mm)
Weight	7800: 45 lbs (20.4 kg) 7804: 41 lbs (18.6 kg) 7820: 34 lbs (15.4 kg) 7850: 35 lbs (15.9 kg) 7854: 46.3 lbs (21 kg)