

# HypotULTRA®

The Most Flexible and Feature-Rich Automated Dielectric Analyzer Available



Our new 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 on-board 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.



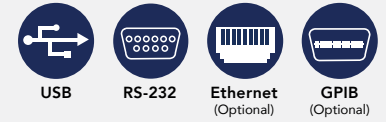
## Find the Model that Fits Your Testing Needs



	AC Hipot	DC Hipot	Ground Bond	Ground Continuity	Insulation Resistance	EN 50191 COMPLIANT
7800*	500 VA*	•	•	•	•	
NEW 2017 7804	•	•	•	•	•	•
7820	•	•	•	•	•	•
7850	•	•	•	•	•	•
NEW 2017 7854	500 VA*	•	•	•	•	•

\*Meets 200 mA short circuit requirements

## AVAILABLE INTERFACES



## 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
- FailCHECK™**  
Confirms failure detection
- Prompt & Hold**  
Provides alerts & instructions between tests
- Autoware®3**  
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
- PLC Remote**  
Basic PLC relay control
- Negative DC Hipot**  
Reverse polarity DC Hipot (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: 0 – 5,000 VAC Resolution: 1 VAC Accuracy: ± (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	<b>Total</b> Range: 0.000 – 9.999 mA Resolution: 0.001 mA Range: 10.00 – 30.00 mA (10 – 99.99 mA, Models 7800/7854) Resolution: 0.01 mA Accuracy: ± (2% of setting + 2 counts) 7804/7820/7850 ± (2% of setting + 6 counts) 7800/7854
	<b>Real</b> Range: 0.000 – 9.999 mA Resolution: 0.001 mA Range: 10.00 – 30.00 mA (10 – 99.99 mA 7800/7854) 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: DC 0.1A ± 0.01A, fixed
Current	Max. Ground Resistance: 1.0 Ω ± 0.1 Ω
Arc Detection	Range: 1 – 9 ranges (9 is most sensitive)

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

Output Voltage	Range: 0 – 6000 VDC Resolution: 1 V Accuracy: ± (2% of setting + 5 V)
DC Output Ripple	<4% (6 KV/10 mA 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: 1,000 – 20,000 µA range (7804/54) 1,000 – 10,000µA range (7800/50) Resolution: 1 µA Accuracy: ± (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      0.0 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 MODE (Models 7800/7804/7850 & 7854 Only)**

Output Voltage, DC	Range: 10 – 1,000 VDC Resolution: 1 VDC Accuracy: ± (2% of setting + 2 counts)
	Range: 1,001 – 6,000 VDC Resolution: 1 VDC Accuracy: ± (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: 0.10 MΩ – 99.9 MΩ (HI-Limit: 0=OFF) Resolution: 0.01 MΩ Accuracy: ± (2% of setting + 2 counts)
	Range: 100.0 MΩ – 999.9 MΩ Resolution: 0.1 MΩ Accuracy: 1,000 – 9,999 ± (5% of setting + 2 counts)
	Range: 1,000 MΩ – 50,000 MΩ Resolution: 1 MΩ Accuracy: 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: 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: 1,001 – 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

**GROUND BOND TEST MODE (Models 7804 & 7854 Only)**

Output Voltage (Open Circuit Voltage)	Range: 3.00 – 8.00 VAC Resolution: 0.01 VAC Accuracy: ± (2% of setting + 3 counts) Open Circuit
Output Current	Range: 1.00 – 40.00 A Resolution: 0.01 A Accuracy: ± (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: 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 Resolution: 1 mΩ Accuracy: ± (2% of setting + 2 counts)
	Range: 0 – 600 mΩ Resolution: 1 mΩ Accuracy: ± (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)