

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



40A
Ground Bond



Ground
Continuity



Insulation
Resistance



	7800*	7804	7820	7850	7854
VA	500 VA*				
AC Hipot	•	•	•	•	•
DC Hipot	•	•	•	•	•
40A Ground Bond	•	•	•	•	•
Ground Continuity	•	•	•	•	•
Insulation Resistance	•	•	•	•	•

*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



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	Total 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
	Real 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 – 10,000 µA 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)