

OMNIA® II

The Most Advanced Electrical Safety Compliance Analyzer in the Industry



Our OMNIA® II Series is a complete line of multi-function electrical safety compliance analyzers designed to satisfy even the most demanding application requirements. We've included exclusive productivity-enhancing features and the latest in safety technology to make this product line the envy of the industry. With 6 models to choose from, a multi-language menu system and a variety of automation interfaces available, the OMNIA® II is ready for global deployment.



Find the Model that Fits Your Testing Needs



Model	AC Hipot	DC Hipot	Ground Bond	Ground Continuity	Insulation Resistance	Leakage Current	Functional Run	Built-in AC Power	Power Source Recommended
8204	•	•	•	•	•	•	•	•	•
8254	500	•	•	•	•	•	•	•	•
8206	•	•	•	•	•	•	•	•	•
8256	500	•	•	•	•	•	•	•	•
8207	•	•	•	•	•	•	•	•	•
8257	500	•	•	•	•	•	•	•	•

*Meets 200 mA short circuit requirements

AVAILABLE INTERFACES



SAFETY & PRODUCTIVITY FEATURES



SmartGFI®
Automatic operator shock protection

Remote Safety Interlock
Easily disable HV output

Prompt & Hold
Provides alerts & instructions between tests



Multiple Languages
Multi-Language user interface

Active Link®
Continuous power during test steps

My Menu
Customize your own shortcut menu



DualCHEK®
Simultaneous Hipot and Ground Bond

Internal Multiplexer
Available with optional HV multiplexer (4 or 8 ports)

Modular Multiplexer
Compatible with SC6540 multiplexers



PLC Remote
Basic PLC relay control

FailCHEK™
Confirms failure detection

Cal-Alert®
Tracks and alerts for calibration



Ramp-Hi®
Reduce ramp time during DC Hipot

Charge-LO®
Confirms proper DUT connection

Arc Detection
High frequency filter for corona detection



Autaware®3
Advanced Automation Control Software

Accredited Cal
Accredited calibration options available

Ground Bond Voltage Drop
Monitor voltage drop vs resistance

INPUT SPECIFICATIONS	
Voltage	115/230 V Auto Range, ± 15 % Variation
Frequency	50/60 Hz ± 5%
Fuse	115 VAC, 230 VAC – 10 A Slow Blow 250 VAC
DIELECTRIC WITHSTAND TEST MODE	
Output Rating	5 kV @ 50 mAAC 5 kV @ 100 mAAC (Models 825X) 6 kV @ 20 mADC
Voltage Setting	Resolution: 1 V Accuracy: ± (2% of setting + 5 volts)
HI and LO-Limit	AC Total Range: 0.000 – 9.999 mA Resolution: 0.001 mA Accuracy: ± (2% of setting + 2 counts)
	AC Real Range: 0.000 – 9.999 mA Resolution: 0.001 mA Accuracy: ± (3% of setting + 50 µA)
	DC Range: 0 – 999.9 µA Resolution: 0.1 µA Accuracy: ± (2% of setting + 2 counts)
Arc Detection	Range: 1 – 9 (9 is most sensitive)
Ground Continuity	Current: DC 0.1 A ± 0.01 A, fixed Max. Ground Resistance: 1 Ω ± 0.1 Ω, fixed
Ground Fault Interrupt	GFI Trip Current: 0.4 mA – 5.0 mA (AC or DC) HV Shut Down Speed: < 1 ms
DC Output Ripple	≤ 4% Ripple rms at 5 kVDC at 20 mA Resistive Load
Discharge Time	≤ 50 ms No Load, < 100 ms for Capacitive Load
Max Capacitive Load, DC Mode	1 µF < 1 kV 0.75 µF < 2 kV 0.5 µF < 3 kV
AC Output Waveform	Sine Wave, Crest Factor = 1.3 – 1.5
Output Frequency	Range: 60 or 50 Hz, User Selection (400/800 Hz optional)
Output Regulation	± (1% of output + 5 V) from no load to full load and over input voltage range
Dwell Timer	Range: AC 0.4 – 999.9 sec (0=Continuous) DC 0.3 – 999.9 sec (0=Continuous)
Ramp Timer	Ramp-up: AC 0.1 – 999.9 sec, DC 0.4 – 999.9 sec Ramp-Down: AC 0.0 – 999.9 sec, DC 0.0, 1.0 – 999.9 sec (0=Continuous)
INSULATION RESISTANCE TEST MODE	
Voltage Setting	Range: 30 – 1000 VDC
HI and LO-Limit	Range: 0.05 MΩ – 99.99 MΩ Resolution: 0.01 MΩ
	Range: 100.0 MΩ – 999.9 MΩ Resolution: 0.1 MΩ
	Range: 1,000 MΩ – 50,000 MΩ Resolution: 1 MΩ (HI-Limit: 0=OFF)
Ramp Timer	Ramp-up: 0.1 – 999.9 sec Ramp-Down: 0.0, 1.0 – 999.9 sec (0=Continuous)
Delay Timer	Range: 0.5 – 999.9 sec (0=Continuous)

GROUND BOND TEST MODE	
Output Voltage (Open Circuit Limit)	Range: 3.00 – 8.00 VAC
Output Frequency	Range: 60 or 50 Hz, User Selectable
Output Current	Range: 1.00 – 40.00 A Resolution: 0.01 A Accuracy: ± (2% of setting + 0.02 A)
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 – 10.00 A Resolution: 1 mΩ Accuracy: ± (2% of reading + 2 mΩ)
	Range: 0 – 600 mΩ for 1.00 – 5.99 A Resolution: 1 mΩ Accuracy: ± (3% of reading + 3 mΩ)
	Resolution: 1 mΩ Accuracy: ± (2% of reading + 2 mΩ)
Dwell Timer	Range: 0.5 – 999.9 sec (0=Continuous)
Milliohm Offset	Range: 0 – 200 mΩ
CONTINUITY TEST MODE	
Output Current	DC 0.01 A ± 0.00001 A
Resistance Display	Range: 0.00 – 10000 Ω
HI and LO-Limit	Range: 1: 0.00 – 10.00 Ω Resolution: 0.01 Ω
	Range 2: 10.1 – 100.0 Ω Resolution: 0.1 Ω
	Range 3: 101 – 1,000 Ω Resolution: 1 Ω Accuracy: ± (1% of reading + 3 counts)
	Range 4: 1,001 – 10,000 Ω Resolution: 1 Ω Accuracy: ± (1% of reading + 10 counts) (Max Limit: 0=OFF)
Dwell Timer	Range: 0.0, 0.3 – 999.9 sec (0=Continuous)
Milliohm Offset	Range: 0.00 – 10.00 Ω
RUN TEST MODE (Models 82X6 & 82X7 only)	
DUT Power	Voltage: 0 – 277 VAC single phase unbalanced Current: 16 AAC max continuous Resolution: 0.0 – 277.0 VAC Full Scale Accuracy: ± (1.5% of reading + 0.2 V), 30.0 – 277.0 VAC
	Short Circuit Protection: 23 AAC, Response Time < 3 sec
	Resolution: 0.1 V
Delay Time Setting	Range: 0.2 – 999.9 seconds
Dwell Time Setting	Range: 0.1 – 999.9 seconds (0=Continuous)

RUN TEST MODE CONTINUED (Models 82X6 & 82X7 only)	
Trip Point Settings & Metering	Voltage
	Volt-Hi Volt-LO
	Range: 30.0 – 277.0 VAC Resolution: 0.1 V Accuracy: ± (1.5% of setting + 0.2 V), 30.0–277 VAC
	Current
	Amp-HI Amp-LO
	Range: 0 – 16.00 AAC Resolution: 0.01 A Accuracy: ± (2.0% of setting + 2 counts)
Watts	Power-HI Power-LO
	Range: 0 – 4,500 W Resolution: 1 W Accuracy: ± (5.0% of setting + 3 counts)
Power Factor	PF-HI PF-LO
	Range: 0.000 – 1.000 Resolution: 0.001 Accuracy: ± (8% of setting + 2 counts)
Leakage Current	Leak-HI Leak-LO
	Range: 0.00 – 10.00 mA (0=OFF) Resolution: 0.01 mA Accuracy: ± (2% of setting + 2 counts)
Timer Display	Range: 0.0 – 999.9 seconds Resolution: 0.1 second Accuracy: ± (0.1% of reading + 0.05 seconds)
LEAKAGE CURRENT TEST MODE (Models 82X6 & 82X7 only)	
DUT Power	Voltage: 0 – 277 VAC Current: 16 AAC max continuous
	Voltage Display
	Range: 0.0 – 277.0 VAC Full Scale Resolution: 0.1 V Accuracy: ± (1.5% of reading + 0.2 V), 30.0 – 277.0 VAC
Short Circuit Protection:	23 AAC, Response Time < 3 s
Reverse Power Switch	Reverse polarity switch setting select ON/OFF/AUTO ON: Reverse power OFF: Normal AUTO: Automatic Reverse Polarity
Neutral Switch	ON/OFF selection for single fault condition
Ground Switch	ON/OFF selection for Class I single fault condition
Probe Setting	Surface to Surface (PH – PL) Surface to Line (PH – L) Ground to Line (G – L)
Touch Current High Limit (rms)	Range: 0.0 µA – 999.9 µA / 1000 µA – 10.00 mA Resolution: 0.1 µA / 1 µA / 0.01 mA

LEAKAGE CURRENT TEST MODE CONTINUED (Models 82X6 & 82X7 only)		
Touch Current Display (rms)	Range 1: 0.0 µA – 32.0 µA, frequency DC, 15 Hz – 1 MHz	
	Range 2: 28.0 µA – 130.0 µA, frequency DC, 15 Hz – 1 MHz	
	Range 3: 120.0 µA – 550.0 µA, frequency DC, 15 Hz – 1 MHz	
	Resolution for Ranges 1, 2, 3: 0.1 µA	
	Accuracy for Ranges 1, 2, 3: DC: 15 Hz < f < 100 KHz: ± (2% of reading + 3 counts) 100 KHz < f < 1 MHz: ± 5% of reading (10.0 µA – 999.9 µA)	
	Range 4: 400 µA – 2100 µA, frequency DC, 15 Hz – 1 MHz	
	Range 5: 800 µA – 8500 µA, frequency DC, 15 Hz – 1 MHz	
	Resolution for Ranges 4 & 5: 1 µA	
	Accuracy for Ranges 4 & 5: DC: 15 Hz < f < 100 KHz: ± (2% of reading + 3 counts) 100 KHz < f < 1 MHz: ± 5% of reading (10 µA – 8500 µA)	
	Range 6: 8.00 mA – 10.00 mA, frequency DC 15 Hz – 100 kHz	
Resolution: 0.01 mA		
Accuracy: DC: 15 Hz < f < 100 KHz: ± 5% of reading (0.01 mA -10.00 mA)		
Touch Current Display (Peak)	Range 1: 0.0 µA – 32.0 µA, frequency DC – 1 MHz	
	Range 2: 28.0 µA – 130.0 µA, frequency DC – 1 MHz	
	Range 3: 120.0 µA – 550.0 µA, frequency DC – 1 MHz	
	Resolution for Ranges 1, 2, 3: 0.1 µA	
	Accuracy for Ranges 1, 2, 3: DC: ± (2% of reading + 2 µA) 15 Hz < f < 1 MHz: ± 10% of reading + 2 µA	
	Range 4: 400 µA – 2100 µA, frequency DC – 1 MHz	
	Range 5: 1800 A – 8500 µA, frequency DC – 1 MHz	
	Resolution for Ranges 4 & 5: 1 µA	
	Accuracy for Ranges 4 & 5: DC: ± (2% of reading + 2 µA) 15 Hz < f < 1 MHz: ±(10% of reading + 2 µA)	
	Range 6: 8.0 mA –10.00 mA, frequency DC – 100 KHz	
Resolution: 0.01 mA		
Accuracy: DC: ± (2% of reading + 3 counts) 15 Hz < f < 100 KHz: ± (10% of reading + 2 counts)		
MD Circuit Module	MD1: UL544NP, UL484 , UL923, UL471, UL867, UL697 MD2: UL544P MD3: IEC 60601-1 MD4: UL1563 MD5: IEC60990 Fig4 U2, IEC 60950-1, IEC60335-1, IEC60598-1, IEC60065, IEC61010 MD6: IEC60990 Fig5 U3, IEC60598-1 MD7: IEC60950, IEC61010-1 FigA.2 (2K ohm) for Run function MD8: IEC60990/60950 Fig4 U1	
	External MD	Basic measuring element 1 kΩ
	Scope Output Interface	BNC type connector on rear panel for Oscilloscope connection

AC POWER SOURCE (82X7 only)	
Output	Power: 630 VA and 500 W Maximum
	Voltage: 0 – 150.0 V / 0 – 277.0 V
	Current: 4.20 A maximum for 0 – 150 V range 2.10 A maximum 0 – 277 V range
	Distortion: ≤ 1% at 45- 500 Hz and output voltage within the 80 – 140 VAC at Low Range or the 160 – 277 VAC at High Range (Resistive Load)
	Regulation: ≤ 0.5% + 5 V (resistive load), from no load to full load and Low Line to High Line (combined regulation)
	Crest Factor: > 3
Settings	Test Timing: < 350 ms at start and between
	Limit: Steps when internal AC source is ON
	Voltage
	Low Range: 0.0 – 150.0 V High Range: 0.0 – 277.0 V Resolution: 0.1 V Accuracy: ± (1.5% of setting + 2 counts)
Frequency	Range: 45.0 Hz – 99.9 Hz Resolution: 0.1 Hz Accuracy: ± 0.1% of setting
	Range: 100 Hz – 500 Hz Resolution: 1 Hz Accuracy: ± 0.1% of setting
A-HI-Limit	Range: 4.20 A / 2.10 A Resolution: 0.01 A Accuracy: ± (2% of reading + 2 counts)
	Voltage
Measurement	Range: 0.0 – 277.0 V Resolution: 0.1 V Accuracy: ± (1.5% of reading + 2 counts)
	Current
	Range: 0.00 – 16.00 A Resolution: 0.01 A Accuracy: ± (2% of reading + 2 counts)
	Power:
	Range: 0 – 4500 Resolution: 1 Accuracy: ± (5% of reading + 3 counts) for PF > 0.100
	Power Factor:
Range: 0.000 – 1.000 Resolution: 0.001 Accuracy: ± (8% of reading + 5 counts)	
Frequency:	
Range: 45 – 500 Hz Resolution: 0.1 Hz Accuracy: ± 0.1 Hz	

GENERAL SPECIFICATIONS	
PLC Remote Control	Input: Test, Reset, Interlock, Recall File 1 through 3 Output: Pass, Fail, Test-in-Process
Safety	Built-in SmartGFI circuit
Memory	10,000 Steps
Interface	Standard: USB/RS-232 Optional: Ethernet or GPIB
Security	Advanced security system with access levels and username/password requirements
Dimensions (W x H x D)	16.93" x 5.24" x 19.69" (430 x 133 x 500 mm)
Weight	8204: 82 lbs (37 kg)
	8254: 92 lbs (42 kg)
	8206/8207: 83 lbs (38 kg)
	8256/8257: 103 lbs (47 kg)

Why We Use Counts
Associated Research publishes some specifications using "counts" which allows us to provide a better indication of the instrument'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 1V then 2 counts = 2 V.

Specifications subject to change without notice.