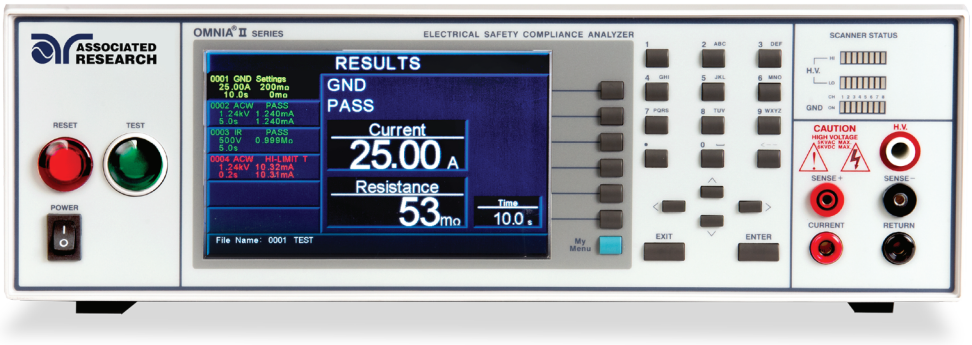
OMNIA® II

THE MOST ADVANCED ELECTRICAL SAFETY COMPLIANCE ANALYZERS IN THE INDUSTRY

3 year Warranty

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 Right Model that Fits Your Testing Needs

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

*Meets 200 mA short circuit requirements

AVAILABLE INTERFACES

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

SAFETY & PRODUCTIVITY FEATURES

- **Smart GFI®** 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 Scanner** Available with optional HV scanning matrix (8 or 16 ports)
- **Modular Scanner** Compatible with SC6540 scanning matrix
- **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
- **Autoware®3** Advanced Automation Control Software
- **Accredited Cal** Accredited calibration options available
- **Ground Bond Voltage Drop**

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
	Range:	10.00 – 50.00 mA (100.00 mA, Models 825x)
	Resolution:	0.01 mA
	Accuracy:	± (2% of setting + 2 counts)
AC Real	Range:	0.000 – 9.999 mA
	Resolution:	0.001 mA
	Range:	10.00 – 50.00 mA (100.00 mA, Models 825x)
	Resolution:	0.01 mA
	Accuracy:	± (3% of setting + 50 µA)
DC	Range:	0.0 – 999.9 µA
	Resolution:	0.1 µA
	Range:	1000 – 20000 µA
	Resolution:	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 5kVDC 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	0.08 µF < 4 kV 0.04 µF < 6 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)
	Range:	DC 0.3 –999.9 sec (0 = Continuous)
Ramp Timer	Range:	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 M Ω
	Range:	100.0 MΩ – 999.9 MΩ
	Resolution:	0.1 MΩ
	Range:	1000 MΩ – 50000 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 Amps 0 – 200 mΩ for 10.01 – 30.00 Amps 0 – 600 mΩ for 1.00 – 10.00 Amps
	Resolution:	1 mΩ
	Accuracy:	± (2% of reading + 2 mΩ)
	Range:	0 – 600 mΩ for 1.00 – 5.99 Amps
	Resolution:	1 mΩ
	Accuracy:	± (3% of reading + 3 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-Limits	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 – 1000 Ω
	Resolution:	1 Ω
	Accuracy:	± (1 % of reading + 3 counts)
	Range 4:	1001 – 10000 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)

DUT Power	Voltage:	0 – 277 VAC Single Phase Unbalanced
	Current:	16 AAC max continuous
	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 < 3s	
Delay Time Setting	Range:	0.2 – 999.9 seconds
Dwell Time Setting	Range:	0.1 – 999.9 seconds (0 = Continuous)

RUN TEST MODE (MODELS 82X6 & 82X7) CONTINUED

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: 0.0 – 16.00 AAC
  - Resolution: 0.01 A
  - Accuracy: ± (2.0% of setting + 2 Counts)

Watts:
- Power-HI
- Power-LO
  - Range: 0 – 4500 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)

Leakage current measuring resistor MD=2KΩ ± 1%

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 AND 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 (MODELS 82X6 & 82X7 ONLY) CONTINUED

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: 1800 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% + 5V (Resistive Load), From no load to full load and Low Line to High Line (combined regulation)

Crest Factor: > 3

Test timing: < 350 mS at start and between
Limit: Steps when internal AC source is ON

Settings

Voltage	Low Range:	0.0 - 150.0 V
	High Range:	0.0 - 277.0 V
	Resolution:	0.1
	Accuracy:	± (1.5% of setting + 2 counts)
Frequency	Range:	45.0 Hz - 99.9 Hz
	Resolution:	0.1
	Accuracy:	±0.1% of setting
	Range:	100 Hz - 500 Hz
	Resolution:	1
	Accuracy:	±0.1% of setting
A-Hi-limit	Range:	4.20 A/2.10 A
	Resolution:	0.01
	Accuracy:	± (2 % of reading +2 counts)

Measurement

Voltage	Range:	0.0-277.0 V
	Resolution:	0.1
	Accuracy:	± (1.5 % of reading +2 counts)
	Current:	
	Range:	0.00-16.00 A
	Resolution:	0.01
	Accuracy:	± (2 % of reading +2 counts)
	Power:	0-4500
	Resolution:	1
	Accuracy:	± (5% of reading +3 counts) for PF>0.100
	Power Factor:	0.000-1.000
	Resolution:	0.001
	Accuracy:	± (8 % of reading +5 counts)
	Frequency:	45-500 Hz
	Resolution:	0.1
	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 Smart GFI 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 in. (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=2V.

Specifications subject to change without notice.