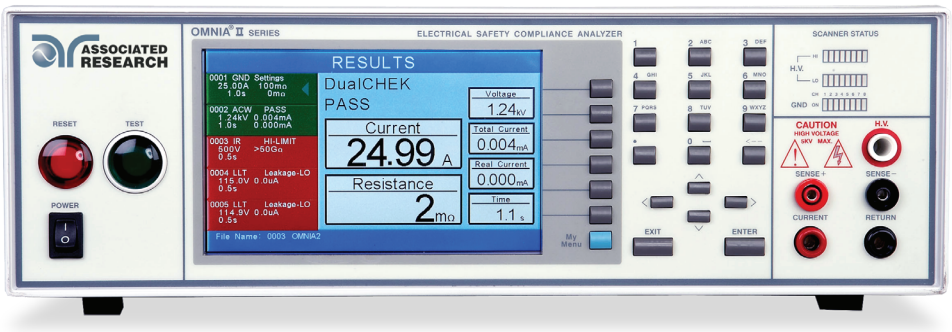
OMNIA® II

THE MOST ADVANCED ELECTRICAL SAFETY COMPLIANCE ANALYZERS IN THE INDUSTRY

SCAN TO VIEW QUICK START VIDEO

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.



AVAILABLE INTERFACES

USB · RS-232 · Ethernet · GPIB

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

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

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

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)

LINE LEAKAGE 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

LINE LEAKAGE 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 1k ohm

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, 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 tester'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.