

OMNIA® II

THE MOST ADVANCED ELECTRICAL SAFETY COMPLIANCE ANALYZERS IN THE INDUSTRY

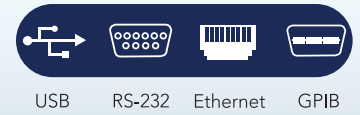
SCAN FOR QUICK START VIDEO



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



SAFETY & PRODUCTIVITY FEATURES

- SmartGFI®**: Automatic operator shock protection
- Remote Safety Interlock**: Easily disable HV output
- Prompt & Hold**: Provides on-screen 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 HV/HC scanning matrix
- Modular Scanner**: Compatible with SC6540 scanning matrix
- PLC Remote**: Basic PLC relay control
- FailCHEK®**: Includes preset verification tests
- 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**: Use with automation software control
- Accredited Cal**: Accredited calibration options available

Find the Right Model that Fits Your Testing Needs

- AC Hipot
- DC Hipot
- 40A Ground Bond
- Ground Continuity
- Insulation Resistance
- Line Leakage
- Functional Run
- Built-in AC Power
- Power Source Recommended (apt)

Model	AC Hipot	DC Hipot	40A Ground Bond	Ground Continuity	Insulation Resistance	Line Leakage	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 Range: 0.000 – 9.999 mA
 Resolution: 0.001 mA
 Total 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 1 µF < 1 kV 0.08 µF < 4 kV
 0.75 µF < 2 kV 0.04 µF < 6 kV
 DC Mode 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)
 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 MΩ
 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 Limit: < 350 mS at start and between 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 (WxHxD): 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.