OMNIA® II

The Most Advanced Electrical Safety Compliance Analyzer in the Industry

3 YEAR WARRANTY · CE · RoHS 2 COMPLIANT 2011/65/EU · EN 50191 COMPLIANT
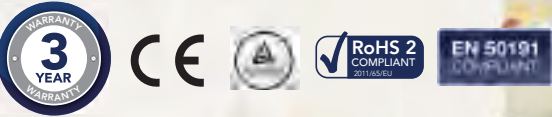
Our OMNIA® II Series is a complete line of multi-function electrical safety compliance analyzers designed to satisfy even the most demanding application requirements. We've included exclusive productivity-enhancing features and the latest in safety technology to make this product line the envy of the 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.
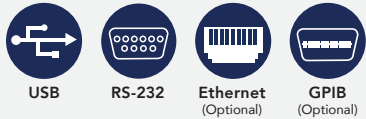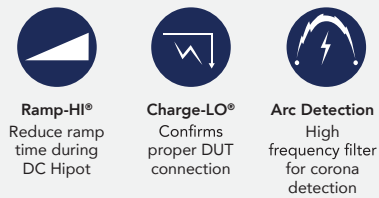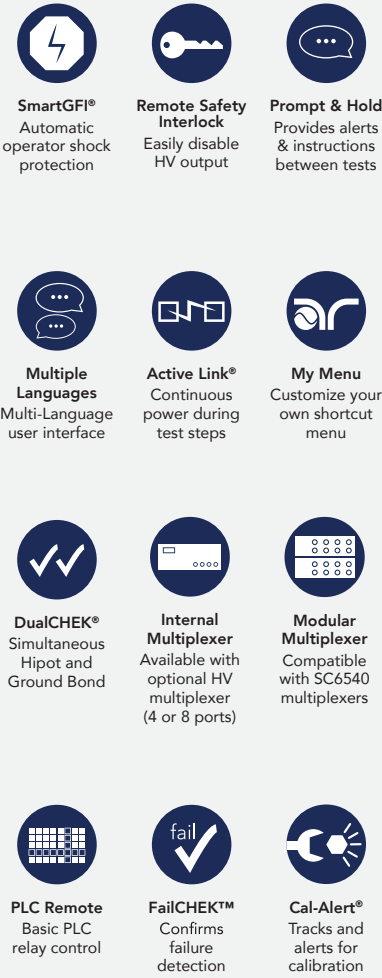
Find the Model that Fits Your Testing Needs

	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

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

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

Autoware®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: Accuracy:	1 V ± (2% of setting + 5 volts
HI and LO-Limit	AC Total	Range: Resolution:	0.000 – 9.999 mA 0.001 mA
		Range: Resolution:	10.00 – 50.00 mA (100.00 mA, models 825X) 0.01 mA
		Accuracy:	± (2% of setting + 2 counts)
	AC Real	Range: Resolution:	0.000 – 9.999 mA 0.001 mA
		Range: Resolution:	10.00 – 50.00 mA (100.00 mA, models 825X) 0.01 mA
		Accuracy:	± (3% of setting + 50 µA)
	DC	Range: Resolution:	0 – 999.9 µA 0.1 µA
		Range: Resolution:	1,000 – 20,000 µA 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 0.08 µF < 4 kV 0.75 µF < 2 kV 0.04 µF < 6 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: Range:	AC 0.4 –999.9 sec (0=Continuous) DC 0.3 –999.9 sec (0=Continuous)
Ramp Timer		Ramp-up: Ramp-Down:	AC 0.1 – 999.9 sec, DC 0.4 – 999.9 sec 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: Resolution:	0.05 MΩ – 99.99 MΩ 0.01 MΩ
	Range: Resolution:	100.0 MΩ – 999.9 MΩ 0.1 MΩ
	Range: Resolution:	1,000 MΩ – 50,000 MΩ 1 MΩ (HI-Limit: 0=OFF)
Ramp Timer	Ramp-up: Ramp-Down:	0.1 – 999.9 sec 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: Resolution: Accuracy:	1.00 – 40.00 A 0.01 A ± (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: Resolution: Accuracy:	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 1 mΩ ± (2% of reading + 2 mΩ)
	Range: Resolution: Accuracy:	0 – 600 mΩ for 1.00 – 5.99 A 1 mΩ ± (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-Limit	Range: Resolution:	1: 0.00 – 10.00 Ω 0.01 Ω
	Range 2: Resolution:	10.1 – 100.0 Ω 0.1 Ω
	Range 3: Resolution: Accuracy:	101 – 1,000 Ω 1 Ω ± (1% of reading + 3 counts)
	Range 4: Resolution: Accuracy:	1,001 – 10,000 Ω 1 Ω ± (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: Current: Range: Resolution: Accuracy:	0 – 277 VAC single phase unbalanced 16 AAC max continuous 0.0 – 277.0 VAC Full Scale 0.1 V ± (1.5% of reading +0.2 V), 30.0 – 277.0 VAC Short Circuit Protection: 23 AAC, Response Time < 3 sec
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: Resolution: Accuracy:	30.0 – 277.0 VAC 0.1 V ± (1.5% of setting + 0.2 V), 30.0–277 VAC
	Current		
	Amp-HI Amp-LO	Range: Resolution: Accuracy:	0.0 – 16.00 AAC 0.01 A ± (2.0% of setting + 2 counts)
	Watts		
	Power-HI Power-LO	Range: Resolution: Accuracy:	0 – 4,500 W 1 W ± (5.0% of setting + 3 counts)
	Power Factor		
	PF-HI PF-LO	Range: Resolution: Accuracy:	0.000 – 1.000 0.001 ± (8% of setting + 2 counts)
	Leakage Current		
	Leak-HI Leak-LO	Range: Resolution: Accuracy:	0.00 – 10.00 mA (0=OFF) 0.01 mA ± (2% of setting + 2 counts)
Timer Display		Range: Resolution: Accuracy:	0.0 – 999.9 seconds 0.1 second ± (0.1% of reading + 0.05 seconds)

LEAKAGE CURRENT TEST MODE (Models 82X6 & 82X7 only)

DUT Power	Voltage: Current:	0 – 277 VAC 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 µA ~ 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
	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 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)
Measurement	Voltage	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:	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 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.