ELECTRICAL SAFETY COMPLIANCE TESTING



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HIPOT TESTERS GROUND BOND TESTERS INSULATION RESISTANCE TESTERS LINE LEAKAGE TESTERS MEDICAL TEST SYSTEMS HV/HC SCANNING MATRICES SOFTWARE SOLUTIONS FUNCTIONAL RUN TESTERS CUSTOM INSTRUMENTS





Fully-Automated, Multi-Function Electrical Safety Compliance Analyzer

Multi-function safety compliance analyzers with an enhanced graphic LCD provide complete test setup and results with an easy-to-use interface. OMNIA® provides 4-in-1, 5-in-1 and 6-in-1 testing solutions. Testers include AC Hipot, DC Hipot, Ground Bond/Continuity, Insulation Resistance, Functional Run and Line Leakage tests. An optional internal scanner is available for the 8104, 4-in-1 tester. An additional external modular scanner is available for use with all testers. All testers come standard with USB and RS-232 interfaces. Ethernet, GPIB, and RS-485 interfaces are also available.

> Model 8104 - OMNIA 4, 5 kV @ 40 mA AC, 5 kV @ 20 mA DC, IR Test, 40 Amp Ground Bond & Optional HV & HC Scanner

> Model 8105 - OMNIA 5, 5 kV @ 40 mA AC, 5 kV @ 20 mA DC, IR Test, 40 Amp Ground Bond & Functional Run Test

> Model 8106 - OMNIA 6, 5 kV @ 40 mA AC, 5 kV @ 20 mA DC, IR Test, 40 Amp Ground Bond, Functional Run Test & Line Leakage Test

Features and Benefits

Patented SmartGFI[®] safety circuit protects the operator from shock hazards

- Real Current measurement allows operators to monitor total and real current on a single screen
- Patented Prompt and Hold function provides a unique method for performing multiple steps during a test cycle
- Line Leakage tester with 7 different measuring devices and RMS or PEAK leakage measurements
- Can be easily connected to AR's SC6540, 620L or an APT Brand AC Power Source to provide a customizable test system
- USB/RS-232, GPIB, Ethernet, or RS-485 automation interfaces available
- Autoware Testing Software available for complete Automation Control
- Cold Resistance Feature for Line to Neutral Continuity Testing

 Patented CAL-ALERT® and VERI-CHEK® features help to ensure that your instrument is calibrated and stays within specs

- Data storage card available for storing and transferring test data without a connection to a PC
- 50 Memories with 30 steps per memory that can be stored and recalled in any alphanumeric combination
- RAMP HI[®] and CHARGE LO[®] testing for more effective DC Hipot testing
- Perform Hipot/Line Leakage without changing test leads
- Patented Graphic LCD and intuitive menu system to simplify the entire testing process from set-up to results

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Input Specific	ations	Dielectric With	stand Test Mode (continued)
Voltage	115/230 V selectable, ± 10% variation	Max Capacitive Load	1 μF < 1 kV 0.08 μF < 4 kV
0		DC Mode	0.75 μF < 2 kV 0.04 μF < 5 kV
Frequency	50/60 Hz ± 5%		0.5 μF < 3 kV
	,	AC Output Waveform	Sine Wave, Crest Factor = 1.3 - 1.5
Fuse	10 A Slow Blow 250 VAC		
		Output Frequency	60 or 50 Hz, User Selecatable
Dielectric Wit	hstand Test Mode	Output Regulation	\pm (1% of output + 5 V) from no load to full load and over
Output Rating	5 kV @ 40 mAAC		input voltage range
	5 kV @ 20 mADC	Dwell Timer	$\Lambda C \cap A = 0000$ sec $(0 = Continuous)$
		Dweir Timer	$DC 0.3 - 999.9 \sec (0 = Continuous)$
Voltage Setting	Range: 0-5000 VAC		
	0-5000 VDC	Ramp Timer	Ramp-Up: AC 0.1 - 999.9 sec, DC 0.4 - 999.9 sec
	Resolution: 1 V		Ramp-Down: AC 0.0 - 999.9 sec, DC 0.0,1.0 - 999.9 sec
	Accuracy: $\pm (2\% \text{ of setting } \pm 5 \text{ V})$		
		Ground Continuity	Current: DC 0.1 A ± 0.01 A, fixed
voltage Display	Range: 0.00-5.00 kV Full Scale		Max. Ground Resistance: $1 \Omega \pm 0.1 \Omega$, fixed
	Resolution: 0.01 KV		
	Accuracy: $\pm (2\% \text{ of reading} + 10 \text{ V})$	Ground Fault Interrupt	GFI Trip Current: 450 µA max (AC or DC)
LII and LO Limit	AC Tatal Danger 0.000.0.000 mA		HV Shut Down Speed: < 1 ms
HI and LO-LIMIL	AC TOTAL Range: 0.000-9.999 MA		
	Resolution: 0.001 mA	Continuity Tool	Modo
	Resolution: 0.01 mA		
	Accuracy: $\pm (2\% \text{ of setting} \pm 2 \text{ counts})$	Output Current	DC 0.1 A ± 0.00001 A
	ΔC Real Range: 0.000-9.999 mA	Resistance Display	Range: 0.00 - 10000.00.0
	Resolution: 0.001 mA		
	Range: 10.00 – 40.00 mA	HI and LO-Limit	0.00 - 10000 Ω
	Resolution: 0.01 mA		
	Accuracy: ± (3% of setting + 50 µA)	Dwell Timer	Range: 0.0, 0.3 - 999.9 sec (0 = Continuous)
	DC Range: 0.0-999.9 µA		
	Resolution: 0.1 µA	Milliohm Offset	Range: 0.00 – 10.00 Ω
	Range: 1000 – 20000 μA		
	Accuracy: ± (2% of setting + 2 counts)	Ground Bond T	ast Mada
Current Display	AC Total Range: 0.000 mA – 3.500 mA	Output voltage	Nange. 3.00-8.00 VAC
	Resolution: 0.001 mA	Output Frequency	50/60 Hz, user selectable
	Range: 3.00 mA – 40.00 mA		
	Resolution: 0.01 mA	Output Current	Range: 1.00 - 40.00 A, Resolution: 0.01 A
	Accuracy: ± (2% of reading + 2 counts)		and the second se
	AC Real Range: 0.000 mA – 9.999 mA	Output Regulation	Accuracy: \pm (1% of output + 0.02 A)
	Resolution: 0.001 mA		Within maximum load limits, and over input voltage range
	Range: 10.00 mA – 40.00 mA		
	Resolution: 0.01 mA	Maximum Loading	1.00 - 10.00 A, 0 - 600 mΩ
	Accuracy: $\pm (3\% \text{ of reading} + 50 \mu\text{A})$		10.01 - 30.00 A, 0 - 200 mΩ
	DC Range: 0.0 µA – 350.0 µA		30.01 - 40.00 A, 0 - 150 mΩ
	Resolution: 0.1 µA	Current display	Range: 0.00 - 10.00 A
	Range. 0.500 IIIA – 5.500 IIIA	ourient display	Resolution: 0.01 A
	Resolution: 0.001 mA		Accuracy: $+$ (3% of setting + 0.03 A)
	Resolution: 0.01 mA		
	Accuracy: $+$ (2% of reading $+$ 2 counts)	Ohmmeter Display	Range: 0 – 150 mΩ for 30.01 – 40.00 Amps
			0 – 200 mΩ for 10.01 – 30.00 Amps
Ramp HI	>20 mA peak maximum, ON/OFF selectable		0 - 600 mΩ for 6.00 - 10.00 Amps
			Resolution: $1 \text{ m}\Omega$
Charge LO	Range: 0.000 - 350 µA or Auto Set		Accuracy: $\pm (2\% \text{ of reading} + 2 \text{ m}\Omega)$
			Range: 0 – 600 mΩ for 1.00 – 5.99 Amps
DC Output Ripple	\leq 4% Ripple rms at 5 kV DC @ 20 mA, Resistive Load		Resolution: $\pm 1 \text{ m}\Omega$
			Accuracy. $\pm (3\%)$ of reading $\pm 3 \ln 2$
Discharge Time	≤ 200 ms		

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Ground Bond Te	est Mode (continued)	OMNIA 8105 and 8106 Functional Run Test Mode	
HI and LO Limit	Range: $0 - 150 \text{ m}\Omega \text{ for } 30.01 - 40.00 \text{ Amps}$ $0 - 200 \text{ m}\Omega \text{ for } 10.01 - 30.00 \text{ Amps}$ $0 - 600 \text{ m}\Omega \text{ for } 1.00 - 10.00 \text{ Amps}$ Resolution: $1 \text{ m}\Omega$ Accuracy: Same as Ohmmeter Display	DUT Power Voltage: 0 - 277 VAC Single Phase Unbalanced (One Hot or Line conductor and One Neutral) Current: 15 AAC max continuous Short Circuit Protection: 23 AAC, Response Time < 3s	
Milliohm Offset	Range: 0 - 200 mΩ	(0 = Continuous)	
		Trip Point Voltage: Volt-Hi	
Insulation Resi	stance Test Mode	Current: Amp-HI	
Voltage Setting	Range: 50 - 1000 VDC	Amp-LO Range: 0.0 – 15.00 AAC Watts: Power-HI	
onarging ourrent		Power-LO Range: 0 – 4200 W	
Resistance Display	Range: 0.05 MΩ – 50000 MΩ (4 Digit, Auto Ranging) Resolution: 50 – 499 VDC 500 – 1000 VDC	Power Factor: PF-HI PF-LO Range: 0.000 – 1.000	
	MΩ MΩ MΩ 0.001 0.050 - 1.999 0.050 - 9.999 0.01 2.00 10.00 10.00	Leak-Hi Leak-LO Range: 0.00 – 10.00 mA (0 = 0FF)	
	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	OMNIA 81.06 Line Leakage Test Mode	
	1 200 - 50000 1000 - 50000	DUT Power Voltage: 0 – 277 VAC Current: 15 AAC max continuous	
Accuracy	50 – 499 V 0.05 M – 999.9 M ± (7% of reading +2 counts)	Short Circuit Protection: 23 AAC, Response Time <3s	
	500 - 1000 V 0.05 M - 999.9 M ± (2% of reading +2 counts) 1000 M - 9999 M ± (5% of reading +2 counts) 10000 M - 50000 M ± (15% of reading +2 counts)	Leakage Current Current Display rms or PEAK Range 1: 0.0 μA – 999.9 μA Resolution: 0.1 μA/step Range 2: 1000 μA – 6000 μA Resolution: 1 μA/step	
HI and LO Limit	Range: 0.05 M – 99.99 MΩ Resolution: 0.01 M	Accuracy rms: DC to 100 kHz ± (1.5% of reading +3 counts)	
	Range: 100.0 M – 999.9 M Resolution: 0.1 M	>100k to 1 MHZ ± 5% of reading, (10.0 μA – 6000 μA)	
	Range: 1000 M – 50000 M Resolution: 1 M	Measuring Device A UI 544 Non Patient	
	(HI – Limit: O = OFF)	B UL544 Patient	
Charge I O	Accuracy: Same as Resistance Display Accuracy	C UL2601-1, UL60601-1, IEC601-1, IEC60601-1 EN60601-1	
Charge LO	Nange. 0.000 - 3.300 µA 01 Auto Set	D UL1563	
Ramp Timer	Ramp-Up: 0.1 - 999.9 sec Ramp-Down: 0.0, 1.0 - 999.9 sec	E UL1950, UL3101, UL61010, IEC950, IEC1010, IEC 60950, IEC61010, IEC60335-1, IEC60990 Fig4-U2	
Delay Timer	1.0 - 999.9 sec (0 = Continuous)	H IEC60990 Fig3-U1	
Ground Fault Interrupt	GFI Trip Current: 450 µA max (AC or DC) HV Shut Down Speed: < 1 ms	Accredited calibration service available. Includes ISO 17025, ANSI Z540.1-1994, CTL & Denan's Law requirements.	
General Specifi	cations	For more information on testing to a specific standard, refer back to the	
Mechanical	Bench or rack mount with tilt up front feet	For more information on testing to a specific standard, refer back to the Common Safety Standard Reference Chart.	
Dimensions	3U (WxHxD) 16.93 x 5.24 x 19.69 in. (430 x 133 x 500 mm)		
Weight	8104 - 26 kgs / 57.32 lbs. 8105/8106 - 29 kgs. / 63.93 lbs.		

USB/RS-232 Standard, GPIB, Ethernet,

Data Storage (RS-485)

50 memories, 30 step/memory

Interface

Memory

We have local sales offices throughout the world to serve you more efficiently.

To find your nearest representative visit the "Local Sales Offices" section of our web site at www.asresearch.com or call us toll-free at 1-800-858-8378

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