

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 – 999.9 µA Resolution: 0.1 µA	
	Range: 1,000 – 20,000 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 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: AC 0.4 – 999.9 sec (0=Continuous)	
	Range: DC 0.3 – 999.9 sec (0=Continuous)	
Ramp Timer	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: 1,000 MΩ – 50,000 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 A 0 – 200 mΩ for 10.01 – 30.00 A 0 – 600 mΩ for 1.00 – 10.00 A Resolution: 1 mΩ Accuracy: ± (2% of reading + 2 mΩ)
	Range: 0 – 600 mΩ for 1.00 – 5.99 A 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-Limit	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 – 1,000 Ω Resolution: 1 Ω Accuracy: ± (1% of reading + 3 counts)	
	Range 4: 1,001 – 10,000 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 only)

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 < 3 sec
Delay Time Setting	Range: 0.2 – 999.9 seconds
Dwell Time Setting	Range: 0.1 – 999.9 seconds (0=Continuous)

OMNIA® II Series

RUN TEST MODE CONTINUED (Models 82X6 & 82X7 only)

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 – 4,500 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)
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 & 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 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
Touch Current Display (Peak)	Resolution: 0.01 mA
	Accuracy: DC: 15 Hz < f < 100 KHz: ± 5% of reading (0.01 mA -10.00 mA)
	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
MD Circuit Module	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)
	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:	
Range: 0 – 4500	
Resolution: 1	
Accuracy: ± (5% of reading + 3 counts) for PF > 0.100	
Power Factor:	
Range: 0.000 – 1.000	
Resolution: 0.001	
Accuracy: ± (8% of reading + 5 counts)	
Frequency:	
Range: 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.