8500 Series

Programmable AC Power Source

The EEC 8500 Series is the most power dense and functionality rich power source in our history, giving you improved capability, functionality, and a reduced footprint all in one series. This series is manufactured or simulating common grid faults, voltage dips, and other power abnormalities. The 8500 Series provides an output voltage up to 310VAC and an output frequency ranging from 5 Hz – 1,200 Hz making it the obvious solution for all kinds of applications. Not to mention, an enhanced interface to all models completely designed with the end-user in mind. Our 8500 Sources can be configured as a simple AC Power Source in MANUAL mode, as an upgraded option with Standard mode or incorporating all functions with Advanced Mode. Advanced mode adds the benefits of a sweep of voltage, frequencies, transients, and DC bias over the course of a single sequence or several different tests. The 8500 Series includes the following models: 8505, 8512, 8520, 8530, 8540, & 8560.

Features

- 14 pre-configured waveforms allow you to simulate nearly any abnormal condition on your DUT by simply selecting the waveform you would like to output.
- With expanded output voltage to 310VAC and output frequency from 5Hz to 1200Hz, the 8500 provides a single, simple solution to meet a wide variety of testing applications.
- Advanced mode option allows you to easily simulate voltage surges, voltage drops, voltage pulses, voltage sweeps, DC bias, and frequency sweeps to help make meeting the specific needs of your testing application easier than it has ever been.
- High power density with a reduced overall footprint offers you the flexibility you need to use your 8500 Series power source in either a bench top or rack mount application.
- Legacy Mode allows you to keep your command set from your 6000, 7000, or 300XAC series.

Applicable Industries

Aerospace

Appliance

Laboratory

Networking

System Integrator

Lighting

Medical

EEC Benefits

5 YEAR WARRANTY

1 DAY GUARANTEED SHIPMENT

Standard

USB/RS-232 Interface

Ethernet Interface

Options

GPIB Interface

Start Output PowerTRAC AVAILABLE

DRIVER AVAILABLE

Modes

INPUT	MANUAL MODE	STANDARD MODE	ADVANCED MODE
Manual Operation	•	•	•
PC Interface (USB/LAN standard, optional GPIB)		•	•
PowerTRAC Compatibility		•	•
Voltage, Frequency, Transient, and DC Bias Sweeps			•

Specifications – 8500

8500 SPECIFICATIONS								
MODEL			8505	8512	8520	8530	8540	8560
AC OUTPUT								
Phase			1Ø2W					
Power Rating			500VA	1250VA	2kVA	3kVA	4kVA	6kVA
Voltage	Range		0 - 310V, 155/310V Auto Range					
	Resolution		0.1V					
	Accuracy		±(0.2% of setting + 3counts)				±(0.2% of setting + 6counts)	
Max. Current (r.m.s)[1]	0 - 155V		5A	12.5A	20A	30A	40A	60A
	0 - 310V		2.5A	6.25A	10A	15A	20A	30A
Frequency	Range		DC, 5 - 1200Hz Full Range Adjust					
	Resolution		0.1Hz at 0.0 - 999.9Hz , 1Hz at 1000 - 1200Hz					
	Accuracy[2]		±0.03% of setting(≥ 15Hz) , ±0.3% of setting(<15Hz)					
Total Harmonic Distortion (THD)[3]			≤ 0.3% @ 50/60Hz (Full Resistive Load)					
Crest Factor[4]			≥ 3	≥ 3	≥ 3	2.5	≥ 3	2.5
Inrush Current			4	4	4	3	4	3
Line Regulation			± 0.1V					
Load Regulation[5]			±0.2V,<1s response time					
DC OUTPUT								
Power rating			300W	750W	1200W	1800W	2400W	3600W
Voltage	Range		0 - 420V, 210/420V Auto Range					
	Resolution		0.1V					
	Accuracy		±(0.2% of setting + 3counts)			±(0.2% of setting + 6counts)		
Max. Current (r.m.s)[2]	0 - 210V		3.0A	7.5A	12.0A	18.0A	24.0A	36.0A
	0 - 420V		1.5A	3.75A	6.0A	9.0A	12.0A	18.0A
Ripple and Noise (r.m.s)[6]	Range	L	< 700mV				< 800mV	
		H	< 700mV				< 800mV	
Ripple and Noise (p-p)[6]			< 6.0Vp-p				< 7.0Vp-p	
Load Regulation[5]			±0.2V,<1s response time					

Specifications – 8500

8500 SPECIFICATIONS							
MODEL		8505	8512	8520	8530	8540	8560
SETTINGS							
Start/End Angle	Range	0-359					
	Resolution	1					
Current Hi Limit (OC Fold=OFF) OC Fold Back (OC Fold = ON)	0 - 155V	0.05-5.00A	0.05-12.50A	0.05-20.00A	0.10-30.00A	0.10-40.00A	0.10-60.00A
	0 - 310V	0.05-2.50A	0.05-6.25A	0.05-10.00A	0.10-15.00A	0.10-20.00A	0.10-30.00A
	Resolution	0.01A					
	Accuracy	± (2.0% of setting + 4 counts)					
OC Fold Back Response Time[7]		< 1.4s					
Time	Range	1.0 - 999.9h/ 1.0 - 999.9m /1.0 - 999.9s /0.2 - 999.9ms					
	Resolution	0.1h/ 0.1m/ 0.1s/ 0.1ms					
	Accuracy	± (0.1% + 0.1 h)/ ± (0.1% + 0.1 m)/ ± (0.1% + 0.1 s)/ ± (0.1% + 0.1 ms)					
Time unit		h, m, s, ms					
Ramp up	Range	0.1 - 999.9s, 0 = OFF					
	Resolution	0.1s					
	Accuracy	± (0.1% + 1 Cycle) at Output frequency ≤ 10Hz/ ± (0.1% + 0.1 s) at Output frequency > 10Hz					
INPUT							
Phase		1Ø					1Ø or 3Ø
Voltage		100 - 240 V ± 10%			200 - 240 V ± 10%		1Ø/3Ø3W: 200-240V±10% 3Ø4W: 346 - 416V ± 10%
Max. Current		8A	18A	30A	22A	30A	1Ø :45A/3Ø3W: 38A 3Ø4W: 22A
Frequency		50 / 60 Hz					
Power Factor[8]		≥ 0.93	≥ 0.97				

Specifications – 8500

8500 SPECFICIATIONS								
MODEL			8505	8512	8520	8530	8540	8560
MEASUREMENT								
Voltage(AC)	Range		0 - 310V, 155/310V Auto Range					
	Resolution		0.1V					
	Accuracy[2]		±(0.2% of reading + 3counts) at voltage > 5V				±(0.2% of reading + 6counts) at voltage > 5V	
Voltage(DC)	Range		0 - 420V, 210/420V Auto Range					
	Resolution		0.1V					
	Accuracy[2]		±(0.2% of reading + 3counts) at voltage > 5V				±(0.2% of reading + 6counts) at voltage > 5V	
Current[9]	Range	L	0.050 - 1.200A	0.050 - 5.000A		-		
		Resolution	1.00 - 6.25A	4.00 - 15.62A	4.00 - 25.00A	0.10 - 37.50A	0.10 - 50.00A	0.10 - 75.00A
	Resolution[3]	L	0.001A			-		
		H	0.01A					
	Accuracy[2]	L	± (1% of reading + 10counts) at CF < 3			-		
		H	± (0.5% of reading +8counts)			± (0.5% of reading +12counts)		
Frequency	Range		0.0 - 1200Hz					
	Resolution		0.1Hz / 1Hz					
	Accuracy		±0.1Hz @ 5 - 999.9Hz. / ±1Hz @ 1000 - 1200Hz					
Power[10] (AC,DC)	Range	L	0.0 - 75.0W	0.0 - 300.0W		-		
		H	60 - 625W	240 - 1563W	240 - 2500W	0 - 3750W	0 - 5000W	0 - 7500W
	Resolution	L	0.1W			-		
		H	1W					
	Accuracy	L	± (1% of reading +10 counts) at PF ≥ 0.35 and voltage > 5V	± (2% of reading +15 counts) at PF ≥ 0.35 and voltage > 5V		-		
		H	± (1% of reading +5 counts) at PF ≥ 0.35 and voltage > 5V	± (1% of reading +10 counts) at PF ≥ 0.35 and voltage > 5V		± (1% of reading +20 counts) at PF ≥ 0.35 and voltage > 5V		
Power Factor	Range		0.000 - 1.000					
	Resolution		0.001					
	Accuracy		W/VA, Calculated and displayed to three significant digits					
Power Apparent (VA)	Range	L	0.0 - 75.0VA	0.0 - 300.0VA		-		
		H	60 - 625VA	240 - 1563VA	240 - 2500VA	0 - 3750VA	0 - 5000VA	0 - 7500VA
	Resolution	L	0.1VA			-		
		H	1VA					
	Calculated Formula		$\sqrt{V \times A}$, Calculated value					
Peak Current Measurement	Range		0.0 - 20.0Apk	0.0 - 50.0Apk	0.0 - 80.0Apk	0.0 - 120.0Apk	0.0 -160.0Apk	0.0 -240.0Apk
	Resolution		0.1A					
	Accuracy		± (0.5% of reading +8counts)				± (0.5% of reading +12counts)	
Reactive Power Measurement	Range	L	0.0 - 75.0VAR	0.0 - 300.0VAR		-		
		H	60 - 625VAR	240 - 1563VAR	240 - 2500VAR	0 - 3750VAR	0 - 5000VAR	0 - 7500VAR
	Resolution	L	0.1VAR			-		
		H	1VAR					
	Calculated Formula		$\sqrt{(VA)^2 - (VA)^2}$, Calculated value					
Crest Factor Measurement	Range		0.00 - 10.00					
	Resolution		0.01					
	Accuracy		Ap / A					

Specifications – 8500

8500 SPECFICIATIONS							
MODEL		8505	8512	8520	8530	8540	8560
GENERAL							
PLC Remote Control		Input:Output ON, Output OFF/Reset, Output Verify, Interlock,File Recall M1 through M7, Trigger Output: Fail, Test-in-Process					
Rear Input		AC Outlet	Terminal Block				
Memory	Std.	10 x 100 (file x sequence) / MANUAL only 10 file no sequence					
	Adv.	100 x 100 (file x sequence) / MANUAL, STEP, PULSE only 100 file no sequence					
Sync Signal/ Ext Trigger	Std.	ON/OFF					
	Adv.	ON / START / END / BOTH / OFF / EVENT, Output Signal 5V ,BNC type					
Display		4.3" TFT LCD					
Protection		OCP, OVP, OPP, OTP, LVP, RCP and FAN.					
Interface		Standard USB, PLC remote, LAN, Analog / Option GPIB, RS-232					
Eeciency (at Full load)[11]		≥ 74%	≥ 81%	≥ 84%	≥ 83%	≥ 84%	≥ 84%
Response Time (Tr/Tf)[12]		275-400usec (Typical)					
Electromagnetic compatibility (EMC)		Complies with the requirements of the following directive and standards. EMC Directive 2014/30/EU EN 55011:2016/A1:2017 (Group 1, Class A), EN 61326-1:2013, EN 61326-2-1:2013, EN 61000-3-11:2000, EN 61000-3-12:2011					
Safety		Complies with the requirements of the following directive and standards. Low Voltage Directive 2014/30/EU, EN 61010-1					
Op. / Non-Op. Temp. / Humidity[13]		0 to 40°C/-40 to 75°C/20 to 80%RH					
Dimension (W x H x D), mm		430 x 88 x 500	430 x 88 x 500	430 x 88 x 500	430 x 88 x 500	430 x 176 x 500	430 x 176 x 500
Weight		15KG	15KG	15KG	15KG	28KG	28KG
STANDARD ACCESSORIES							
Interlock Disable Key (1505)		X1					
USB Cable		X1					
Shorting bar		X1					
Power Cord (125Vac/10A)		X1	-				

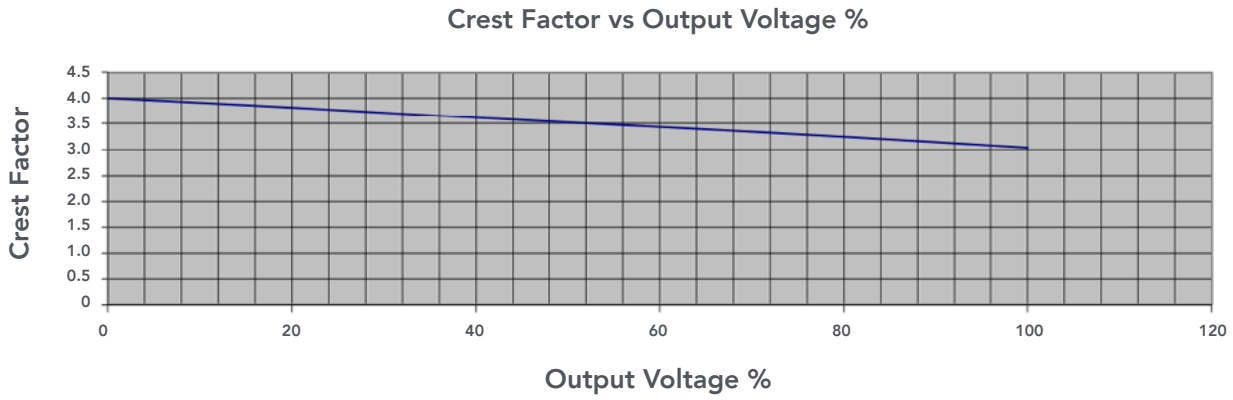
Specifications subject to change

Why use the term "Counts"?

EEC 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.

Measurement Considerations

1. 8505, 8512, 8520VA: Input voltage is from 100V to 240V, maximum output power to resistive load, sine wave, output frequency 25Hz to 1200Hz. 8040: Input voltage is from 200V to 240V,maximum output power to linear load,sine wave,output frequency 25Hz to 1200Hz
2. At working voltage 100V / 200V.
3. The peak capacity of the instrument may vary from 3 to 4 times the maximum rated current depending on the voltage. Please refer the following chart:



4. Maximum distortion is tested at 100 - 155V (155V Range) and 200 - 310V (310V Range) with maximum current to a resistive load.
5. No load to Full load, for output frequencies of <100Hz reference the Load Regulation (Hardware) described in the table on page 8, Section 3.1.
6. DC to 300 kHz components at voltage=0V.
7. At voltage > 10.
8. At output frequency 30Hz - 1200Hz. Response time < 7S at output frequency 5 - 29.9Hz. Response time < 2S at DC output. When the OC_FOLD function is enabled, the transient current and power cannot exceed 110% of the total power, otherwise the protection will be triggered.
9. At the 10% to 100% of the maximum rated current.
10. At the 10% to 100% of the maximum rated power. If output current exceeds the current measurement L range, power measurement accuracy follows the H range.
11. Efficiency is tested at input voltage 220VAC with maximum power to a resistive load, output frequency 5Hz to 500Hz.
12. At 10% to 90% of output voltage.
13. The operating humidity is non-condensing.