

# 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.
- Easily upgrade and keep your command set from your 6000, 7000, or 300XAC Series with the legacy program mode.



### Applicable Industries



Aerospace



Appliance



Laboratory



Networking



System Integrator



Lighting



Medical

### EEC Benefits



### Standard



USB



LAN

### Options



RS-232  
(OPT)



GPIB  
(OPT)



Modes

| INPUT                                                  | MANUAL MODE | OPT 02<br>STANDARD MODE | OPT 01<br>ADVANCED MODE |
|--------------------------------------------------------|-------------|-------------------------|-------------------------|
| Manual Operation                                       | •           | •                       | •                       |
| PC Interface (USB/LAN standard, optional RS-232, GPIB) |             | •                       | •                       |
| PowerTRAC Compatibility                                |             | •                       | •                       |
| Voltage, Frequency, Transient, and DC Bias Sweeps      |             |                         | •                       |

Specifications – 8500 Series

| 8500 Series                     |            |   |                                                     |            |            |                              |                              |            |
|---------------------------------|------------|---|-----------------------------------------------------|------------|------------|------------------------------|------------------------------|------------|
| 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)            | 0 - 155V   |   | 5A@100V                                             | 12.5A@100V | 20A@100V   | 30A@100V                     | 40A@100V                     | 60A@100V   |
|                                 | 0 - 310V   |   | 2.5A@200V                                           | 6.25A@200V | 10A@200V   | 15A@200V                     | 20A@200V                     | 30A@200V   |
| Frequency                       | Range      |   | DC, 5 - 1200Hz Full Range Adjust                    |            |            |                              |                              |            |
|                                 | Resolution |   | 0.1Hz at 0.0 - 999.9Hz , 1Hz at 1000 - 1200Hz       |            |            |                              |                              |            |
|                                 | Accuracy   |   | ±0.03% of setting(≥ 15Hz) , ±0.3% of setting(<15Hz) |            |            |                              |                              |            |
| Total Harmonic Distortion (THD) |            |   | ≤ 0.3% @ 50/60Hz (Full Resistive Load)              |            |            |                              |                              |            |
| Crest Factor                    |            |   | ≥ 3                                                 |            |            |                              |                              |            |
| Inrush Current                  |            |   | 4                                                   |            |            |                              |                              |            |
| Line Regulation                 |            |   | ± 0.1V                                              |            |            |                              |                              |            |
| Load Regulation                 |            |   | ±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)            | 0 - 210V   |   | 3.0A@100V                                           | 7.5A@100V  | 12.0A@100V | 18.0A@100V                   | 24.0A@100V                   | 36.0A@100V |
|                                 | 0 - 420V   |   | 1.5A@200V                                           | 3.75A@200V | 6.0A@200V  | 9.0A@200V                    | 12.0A@200V                   | 18.0A@200V |
| Ripple and Noise (r.m.s)        | Range      | L | < 700mV                                             |            |            |                              | < 800mV                      |            |
|                                 |            | H | < 700mV                                             |            |            |                              | < 800mV                      |            |
| Ripple and Noise (p-p)          |            |   | < 6.0Vp-p                                           |            |            |                              | < 7.0Vp-p                    |            |
| Load Regulation                 |            |   | ±0.2V,<1s Ωresponse time                            |            |            |                              |                              |            |

Specifications – 8500 Series

| MODEL                                                               |            | 8505                                                                                       | 8512        | 8520        | 8530              | 8540        | 8560                                            |
|---------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------|-------------|-------------|-------------------|-------------|-------------------------------------------------|
| SETTINGS                                                            |            |                                                                                            |             |             |                   |             |                                                 |
| Start/End Angle                                                     | Range      | 0-359                                                                                      |             |             |                   |             |                                                 |
|                                                                     | Resolution | 1                                                                                          |             |             |                   |             |                                                 |
| Current Hi Limit<br>(OC Fold=OFF)<br>OC Fold Back<br>(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                                          |            | < 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%<br>3Ø4W: 346 - 416V ± 10% |
| Max. Current                                                        |            | 8A                                                                                         | 18A         | 30A         | 22A               | 30A         | 1Ø :45A/3Ø3W: 38A<br>3Ø4W: 22A                  |
| Frequency                                                           |            | 50 / 60 Hz                                                                                 |             |             |                   |             |                                                 |
| Power Factor                                                        |            | ≥ 0.93                                                                                     | ≥ 0.97      |             |                   |             |                                                 |

# Specifications – 8500 Series

| MEASUREMENT                   |                    |            |                                                            |                                                            |               |                                                            |                                              |                |
|-------------------------------|--------------------|------------|------------------------------------------------------------|------------------------------------------------------------|---------------|------------------------------------------------------------|----------------------------------------------|----------------|
| Voltage(AC)                   | Range              |            | 0 - 310V, 155/310V Auto Range                              |                                                            |               |                                                            |                                              |                |
|                               | Resolution         |            | 0.1V                                                       |                                                            |               |                                                            |                                              |                |
|                               | Accuracy           |            | ±(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           |            | ±(0.2% of reading + 3counts) at voltage > 5V               |                                                            |               |                                                            | ±(0.2% of reading + 6counts) at voltage > 5V |                |
| Current                       | 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         | L          | 0.001A                                                     |                                                            |               | -                                                          |                                              |                |
|                               |                    | H          | 0.01A                                                      |                                                            |               |                                                            |                                              |                |
|                               | Accuracy           | 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<br>(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<br>(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 |            | V×A , Calculated value                                     |                                                            |               |                                                            |                                              |                |
| Peak Current<br>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<br>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 |            | $\sqrt{(\text{VA})^2 - (\text{W})^2}$ , Calculated value   |                                                            |               |                                                            |                                              |                |
| Crest Factor<br>Measurement   | Range              |            | 0.00 - 10.00                                               |                                                            |               |                                                            |                                              |                |
|                               | Resolution         |            | 0.01                                                       |                                                            |               |                                                            |                                              |                |
|                               | Accuracy           |            | Ap / A                                                     |                                                            |               |                                                            |                                              |                |

## Specifications – 8500 Series

| 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<br>Output: Fail, Test-in-Process                                                                                           |                |                |                |                 |                 |
| Rear Input                          |                     | Terminal Block                                                                                                                                                                                                            |                |                |                |                 |                 |
| Memory                              | Manual              | 10 x 100 (file x sequence) / MANUAL only 10 file no sequence                                                                                                                                                              |                |                |                |                 |                 |
|                                     | Standard / Advanced | 100 x 100 (file x sequence) / MANUAL, STEP, PULSE only 100 file no sequence                                                                                                                                               |                |                |                |                 |                 |
| Sync Signal/<br>Ext Trigger         | Manual / Standard   | ON/OFF                                                                                                                                                                                                                    |                |                |                |                 |                 |
|                                     | Advanced            | 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                           | Manual              | Only PLC Remote                                                                                                                                                                                                           |                |                |                |                 |                 |
|                                     | Standard / Advanced | Standard USB, PLC remote, LAN, Analog / Option GPIB, RS-232                                                                                                                                                               |                |                |                |                 |                 |
| Eeciency (at Full load)             |                     | ≥ 74%                                                                                                                                                                                                                     | ≥ 81%          | ≥ 84%          | ≥ 83%          | ≥ 84%           | ≥ 84%           |
| Response Time (Tr/Tf)               |                     | 275-400usec (Typical)                                                                                                                                                                                                     |                |                |                |                 |                 |
| Electromagnetic compatibility (EMC) |                     | Complies with the requirements of the following directive and standards. EMC Directive 2014/30/EU<br>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/<br>EU, EN 61010-1                                                                                                 |                |                |                |                 |                 |
| Op. / Non-Op. Temp. / Humidity      |                     | 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                                                                                                                                                                                                                        |                |                |                |                 |                 |

Subject to change without prior notice.