## SL and B Series

## PRODUCT OVERVIEW

Elgar SL and B Series power sources are wide range, solid-state linear amplifiers that convert the incoming line to low distortion, stable sine wave power.

These solid-state frequency changers are benchtop/19" rackmount units that can be driven over their full voltage and frequency ranges by fixed, variable or programmable plug-in oscillators.

The SL and B's offer overload and overtemperature protection, can operate continuously at up to $150 \%$ rated capacity, and provide up to three output voltage ranges.

## FEATURES AND BENEFITS

## CONTINUOUS DUTY AT 150\% RATED CAPACITY

Due to their conservative design, the SL Series provides continuous duty at $150 \%$ rated capacity into a linear resistive load, while the B Series models are rated at $100 \%$.

## LOW HARMONIC DISTORTION

The SL and B Series power sources provide low harmonic distortion normally below $0.3 \%$ midband, $0.6 \%$ over the full frequency range.

## WIDE FREQUENCY RANGE

Elgar AC pow er sources offer frequencies from 45 Hz to 5 kHz at full rated power. (optionally expandable to 10 kHz )

## CONFIGURABLE

SL and B Series components can be used as building blocks for creating a full range of single, dual and three-phase AC power sources.

## OUTPUT POWER VOLT AMPERE RATING

Single phase $\quad 120$ VA to 18 kVA
Dual phase 240 VA to 18 kVA
Three phase $\quad 150$ VA to 36 kVA

## WARRANTY

Elgar offers a two year warranty on the SL and B Series power supplies.


1001 SL and 400 SD

EMC/ SAFETY (SLE Models Only)
C The 1001 SLE and 1751 SLE have been designed to meet the requirements for the CE mark.

## OPTIONS

## PROGRAMMABLE VIA IEEE-448 GPIB

Elgar's SL and B Series, when used with a Plug-In Programmer, provide full GPIB control of voltage, frequency, phase angle, voltage dropouts and test readback of output parameters.

## RANGE CHANGE RELAYS

An optional internal range change relay sw itches betw een 130 VAC and 260 VAC ranges under GPIB control or front panel local control when used with a PIP or a modified oscillator.

TEST OPTION/ BUILT-IN TEST EQUIPMENT (BITE)
This feature is available when used with an Elgar PIP9012A, PIP9023 or PIP704 that also has the test option. Depending on the PIP, the RMS voltage, RMS current, frequency, phase angle and true pow er in watts can be read from the front panel or over the GPIB.

## PROGRAMMABLE CURRENT LIMIT

When equipped with the test option (Builtin Test Equipment/BITE), a current limit may be programmed via the GPIB or from the front panel which, if exceeded, will cause system shutdow $n$ and status reporting.

## REMOTE SENSE

This feature provides full programming accuracy without sacrificing response time and is available with Elgar Plug-In Programmers and other selected oscillators for $0.015 \%$ regulation.

## DISCONNECT RELAY

The optional internal output relay connects the load to the output of the power source under GPIB control or from the front panel keypad with a Plug-In Programmer.

## APPLICATIONS

The linear design of the SL and B Series provides a highly regulated, clean sine w ave, making these units ideal for linear loads in general purpose test applications as well as for Automatic Test Equipment systems and avionics testing.

- Power fault simulation when used with an Elgar Plug-In Programmer
- Frequency conversion ( 60 to 50 Hz or 50 to 60 Hz ) for generating international or USA power
- Power supply testing
- Gyro testing
- Avionics testing ( 400 Hz )


## SPECIFICATIONS

## OUTPUT

Voltage Range: SL Series: 0-65, 0-130, $0-260 \mathrm{VAC} ; \mathrm{B}$ Series: $0-32,0-65,0-130$, $0-260 \mathrm{VAC}$ (varies per model). Specific output range is selected by jumper change on rear panel. Consult Elgar for other voltage ranges.
Rated Power Voltage Range: Full rated VA from $55-65 \mathrm{VAC}, 110-130 \mathrm{VAC}$, or $220-260$ VAC over a $\pm 10 \%$ input and rated PF range

SL Series: Continuous duty at $150 \%$ of rated capacity at 55 Co* $^{\circ}$
B Series: Continuous duty at $100 \%$ of rated capacity*
Load Power Factor: Unity to $\pm 0.7 \mathrm{PF}$ at rated VA with an output voltage adjustment range of $85-100 \%$ of full scale*

Frequency Range: 45 Hz to 5 kHz at full rated power

## Total Harmonic Distortion:

SL Series: $0.4 \% 200 \mathrm{~Hz}$ to 1000 Hz $0.6 \%$ Full frequency range
B Series: $0.5 \% 100 \mathrm{~Hz}$ to 1000 Hz $0.9 \%$ Full frequency range
Load Regulation: $\pm 1 \%$ no load to full load over full frequency range. Better than $\pm 0.25 \%$ for fixed frequency output. Adjustable to $\pm 0.1 \%$ for specific load conditions and to $\pm 0.015 \%$ with a PIP
Line Regulation: $\pm 0.25 \%$ at rated load for a $\pm 10 \%$ input change at full scale output voltage

Response Time: < 50 microseconds
AC Noise Level: 70 dB below full output voltage with input grounded

INPUT
Voltage SL Series: See model number description on page 23.
Three Phase B Series Models: See table
Frequency: 47 to $63 \mathrm{~Hz}(400 \mathrm{~Hz}$ option, special order)
Efficiency: Up to 45\%
GENERAL
Operating Temperature Range: $0^{\circ}$ to $+55^{\circ} \mathrm{C}$
Operating Humidity Range: Up to 95\% non- condensing
Metering: SL Series: $0-300$ VAC output voltmeter, $\pm 3 \%$ accuracy
B Series: 0-150 VAC
Controls: Input power switch/circuit breaker and pilot light. Full range, 10 -turn output voltage control potentiometer
*See Power Rating Curve on page 23.

## Single Phase Output Power

| Model | Power |  | Output |  | Input <br> Voltage and Nominal/Max |  | Physical |  |  |  | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total VA | Vol. Range | Max Current | Frequency |  |  | Height and Depth (in/mm) |  | Weight WT (lbs/kg) |  |  |
|  |  | (RMS)L-N | (RMS) ${ }^{1}$ | Range (Hz) | Phase | $(\mathrm{kVA})^{2}$ |  |  |  |  |  |
| 121B | 120 | $\begin{aligned} & 0.130 \\ & 0.260 \end{aligned}$ | $\begin{aligned} & 1.1 \\ & 0.55 \end{aligned}$ | 45 to 5k | 115 or 230,10 | 0.4 | $\begin{gathered} 3.5 / 89 \\ 5 / 127 \end{gathered}$ | $\begin{aligned} & H \\ & \text { D } \end{aligned}$ | $\begin{aligned} & 47 / 21 \\ & 51 / 23 \end{aligned}$ | Net <br> Ship | $0-32 \mathrm{~V} / 4.4 \mathrm{~A}$ range available; <br> Model 121B-101 |
| 251B | 250 | $\begin{aligned} & 0.32 \\ & 0-130 \\ & 0.260 \end{aligned}$ | $\begin{aligned} & 9.2 \\ & 2.25 \\ & 1.1 \end{aligned}$ | 45 to 5k | 115 or 230, 10 | 0.8 | $\begin{gathered} \hline 5.25 / 133 \\ 16 / 405 \end{gathered}$ | $\begin{aligned} & \mathrm{H} \\ & \mathrm{D} \end{aligned}$ | $\begin{aligned} & 49 / 22 \\ & 55 / 25 \end{aligned}$ | $\begin{aligned} & \text { Net } \\ & \text { Ship } \end{aligned}$ |  |
| 351 SL-XX | 350 | $\begin{aligned} & 0.65 \\ & 0-130 \\ & 0.260 \end{aligned}$ | $\begin{aligned} & \hline 8.0 \\ & 4.0 \\ & 2.0 \\ & \hline \end{aligned}$ | 45 to 5k | 115 or 230, 10 | 1.0/1.6 | $\begin{gathered} 5.25 / 133 \\ 21 / 533 \end{gathered}$ | $\begin{aligned} & \mathrm{H} \\ & \mathrm{D} \end{aligned}$ | $\begin{aligned} & 75 / 34 \\ & 83 / 38 \end{aligned}$ | $\begin{aligned} & \text { Net } \\ & \text { Ship } \end{aligned}$ |  |
| 501 SL-XX | 500 | $\begin{aligned} & 0-65 \\ & 0-130 \\ & 0.260 \\ & \hline \end{aligned}$ | $\begin{array}{r} 11.5 \\ 5.8 \\ 2.9 \\ \hline \end{array}$ | 45 to 5k | 115 or 230, 10 | 1.5/2.2 | $\begin{gathered} \hline 5.25 / 133 \\ 21 / 533 \end{gathered}$ | $\begin{aligned} & \mathrm{H} \\ & \mathrm{D} \end{aligned}$ | $\begin{aligned} & 80 / 36 \\ & 88 / 40 \end{aligned}$ | Net <br> Ship |  |
| 751 SL-XX | 750 | $\begin{aligned} & 0.65 \\ & 0-130 \\ & 0-260 \end{aligned}$ | $\begin{gathered} 17.3 \\ 8.65 \\ 4.3 \\ \hline \end{gathered}$ | 45 to 5k | $\begin{gathered} 115,208 \text { or } \\ 230,1 \varnothing \end{gathered}$ | 2.2/3.2 | $\begin{gathered} 7.00 / 178 \\ 21 / 533 \end{gathered}$ | $\begin{aligned} & \mathrm{H} \\ & \mathrm{D} \end{aligned}$ | $\begin{aligned} & 115 / 52 \\ & 25 / 57 \end{aligned}$ | Net Ship |  |
| $\begin{aligned} & \hline 1001 \text { SL-XX } \\ & \& \\ & 1001 \text { SLE-2X } \end{aligned}$ | 1000 | $\begin{aligned} & 0.65 \\ & 0-130 \\ & 0.260 \\ & \hline \end{aligned}$ | $\begin{array}{r} 23.1 \\ 11.5 \\ 5.8 \end{array}$ | 45 to 5k | $\begin{gathered} 115,208 \text { or } \\ 230,1 \varnothing \end{gathered}$ | 3.0/4.2 | $\begin{aligned} & 7.00 / 178 \\ & 21 / 533 \end{aligned}$ | $\begin{aligned} & H \\ & D \end{aligned}$ | $\begin{aligned} & 125 / 57 \\ & 135 / 61 \end{aligned}$ | $\begin{aligned} & \text { Net } \\ & \text { Ship } \end{aligned}$ | C $\in 1001$ SLE-21 only |
| $\begin{aligned} & 1751 \text { SL-XX } \\ & \& \\ & 1751 \text { SLE-2X } \end{aligned}$ | 1750 | $\begin{aligned} & 0.65 \\ & 0-130 \\ & 0.260 \\ & \hline \end{aligned}$ | $\begin{gathered} \hline 40.4 \\ 20.2 \\ 10.1 \\ \hline \end{gathered}$ | 45 to 5k | $\begin{gathered} 115,208 \text { or } \\ 230,1 \varnothing \end{gathered}$ | 5.2/7.5 | $\begin{gathered} 12.25 / 311 \\ 21 / 533 \end{gathered}$ | $\begin{aligned} & \mathrm{H} \\ & \mathrm{D} \end{aligned}$ | $\begin{aligned} & 190 / 86 \\ & 200 / 91 \end{aligned}$ | Net <br> Ship | C $\in 1751$ SLE-21 only |
| 3001 | 3000 | $\begin{aligned} & 0-65 \\ & 0-130 \\ & 0.260 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 54.5 \\ & 27.2 \\ & 13.6 \\ & \hline \end{aligned}$ | 45to 3k | $\begin{gathered} 208 \text { or } 416 \\ L-L, 3 \varnothing \end{gathered}$ | 9.0 | $\begin{aligned} & 17.5 / 445 \\ & 22 / 560 \end{aligned}$ | $\begin{aligned} & \mathrm{H} \\ & \mathrm{D} \end{aligned}$ | 315/143 <br> 361/164 | Net <br> Ship |  |
| $\begin{aligned} & 3500 \text { SL-XX } \\ & \& \\ & 3500 \text { SLE-2X } \\ & \hline \end{aligned}$ | 3500 | $\begin{aligned} & \hline 0.65 \\ & 0-130 \\ & 0-260 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 80.8 \\ & 40.4 \\ & 20.2 \\ & \hline \end{aligned}$ | 45 to 5k | $\begin{gathered} 115,208 \\ \text { or } 230,10 \end{gathered}$ | 10.5/15.0 | $\begin{gathered} \hline 24.50 / 622 \\ 21 / 533 \end{gathered}$ | $\begin{aligned} & \mathrm{H} \\ & \mathrm{D} \end{aligned}$ | $\begin{aligned} & 380 / 172 \\ & 400 / 182 \end{aligned}$ | Net Ship | 2ea $1751 \mathrm{SL}, 1$ ea 400 SR, <br> lea signal cable <br> C $\in 3500$ SLE- 21 only |
| 6000-1 | 6000 | $\begin{aligned} & 0.130 \\ & 0.260 \\ & 0.520 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 54.5 \\ & 27.2 \\ & 13.6 \\ & \hline \end{aligned}$ | 45 to 3k | $\begin{gathered} 208 \text { or 416, } \\ \text { L-L, } 3 \varnothing \end{gathered}$ | 18.0 | $\begin{aligned} & 35 / 890 \\ & 22 / 560 \end{aligned}$ | $\begin{aligned} & H \\ & D \end{aligned}$ | $\begin{aligned} & \hline 630 / 286 \\ & 722 / 328 \end{aligned}$ | $\begin{aligned} & \text { Net } \\ & \text { Ship } \end{aligned}$ | 2ea 3001 (Series)1ea 400 SR lea signal cable |
| 9000-1 | 9000 | $\begin{aligned} & 0.130 \\ & 0-260 \end{aligned}$ | $\begin{aligned} & 81.8 \\ & 40.9 \end{aligned}$ | 45 to 3k | $\begin{gathered} 208 \text { or 416, } \\ \text { L-L, } 3 \varnothing \end{gathered}$ | 27.0 | $\begin{gathered} \hline 52.5 / 1335 \\ 22 / 560 \end{gathered}$ | $\begin{aligned} & \mathrm{H} \\ & \mathrm{D} \end{aligned}$ | $\begin{aligned} & 945 / 429 \\ & 1083 / 492 \end{aligned}$ | Net <br> Ship | 3ea 3001-165A (parallel) 2ea 400 SR, 1ea signal cable |

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## Dual Phase Output Power

| Model | Power |  | Output |  | Input |  | Physical |  |  |  | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total VA | Vol. Range (RMS)L-N | Max Current (RMS) ${ }^{1}$ | Frequency Range (Hz) | Voltage and Nominal/ Max |  | Height and Depth (in/mm) ${ }^{3}$ |  | Weight WT (lbs/kg) |  |  |
|  |  |  |  |  | Phase | (kVA) ${ }^{2}$ |  |  |  |  |  |
| 240-2 | 240 | $\begin{aligned} & 0-130 \\ & 0-260 \end{aligned}$ | $\begin{aligned} & 1.1 \\ & 0.55 \end{aligned}$ | 45 to 5K | 115 or 230, 10 | 0.7 | $\begin{aligned} & 7 / 128 \\ & 15 / 381 \end{aligned}$ | H D | $\begin{gathered} 94 / 42 \\ 102 / 46 \end{gathered}$ | Net <br> Ship | 2ea 121 B in $2 \varnothing 90^{\circ}$, 1ea 400 SR , 1ea signal cable |
| 500-2 | 500 | $\begin{aligned} & 0.32 \\ & 0-130 \\ & 0.260 \\ & \hline \end{aligned}$ | $\begin{aligned} & 9.2 \\ & 2.25 \\ & 1.1 \\ & \hline \end{aligned}$ | 45 to 5K | 115 or 230, 10 | 1.5 | $\begin{gathered} \hline 10.5 / 267 \\ 16 / 406 \end{gathered}$ | H | $\begin{gathered} 98 / 44 \\ 110 / 50 \end{gathered}$ | Net <br> Ship | 2ea 251 B in $2 \varnothing 90^{\circ}$, 1ea 400 SR , 1ea signal cable |
| 1000 SL-2-XX | 1000 | $\begin{aligned} & 0.65 \\ & 0-130 \\ & 0.260 \end{aligned}$ | $\begin{array}{r} \hline 11.5 \\ 5.8 \\ 2.9 \\ \hline \end{array}$ | 45 to 5K | 115 or 230, 10 | 3.0/4.4 | $\begin{gathered} 10.5 / 267 \\ 21 / 533 \end{gathered}$ | H | $\begin{aligned} & 160 / 73 \\ & 176 / 80 \end{aligned}$ | Net Ship | 2ea 501 SL in $2 ø 90^{\circ}$, 1ea 400 SR , lea signal cable |
| 1500 SL-2-XX | 1500 | $\begin{aligned} & 0.65 \\ & 0-130 \\ & 0.260 \end{aligned}$ | $\begin{gathered} \hline 17.3 \\ 8.65 \\ 4.3 \\ \hline \end{gathered}$ | 45 to 5K | $\begin{gathered} 115,208 \text { or } \\ 230,1 \varnothing \end{gathered}$ | 4.5/6.4 | $\begin{aligned} & 14 / 356 \\ & 21 / 533 \end{aligned}$ | H | $\begin{aligned} & 230 / 105 \\ & 250 / 114 \end{aligned}$ | Net Ship | 2ea 751SL in $2 \varnothing 90^{\circ}$, 1ea 400 SR , 1ea signal cable |
| $\begin{aligned} & \hline 2000 \text { SL-2-XX } \\ & \& \\ & 2000 \text { SLE-2-2X } \\ & \hline \end{aligned}$ | 2000 | $\begin{aligned} & 0.65 \\ & 0-130 \\ & 0.260 \\ & \hline \end{aligned}$ | $\begin{array}{r} 23.1 \\ 11.5 \\ 5.8 \\ \hline \end{array}$ | 45 to 5K | $\begin{gathered} 115 \text { or } 208 \text { or } \\ 230,10 \end{gathered}$ | 6.0/8.4 | $\begin{aligned} & 14 / 356 \\ & 21 / 533 \end{aligned}$ | H | $\begin{aligned} & 260 / 118 \\ & 280 / 127 \end{aligned}$ | Net Ship | $\begin{aligned} & \text { 2ea } 1001 \text { SL (or } 1001 \text { SLE) in } 2 \varnothing 90^{\circ} \text {, \& } \\ & \text { lea } 400 \text { SR, 1ea signal cable } \\ & \text { C } \quad 2000 \text { SLE-2-21 only } \end{aligned}$ |
| $\begin{aligned} & 3500 \text { SL-2-XX } \\ & \& \\ & 3500 \text { SLE-2X } \end{aligned}$ | 3500 | $\begin{aligned} & 0.65 \\ & 0.130 \\ & 0.260 \end{aligned}$ | $\begin{gathered} \hline 40.4 \\ 20.2 \\ 10.1 \\ \hline \end{gathered}$ | 45 to 5K | $\begin{gathered} 115,208 \text { or } \\ 230,1 \varnothing \end{gathered}$ | 10.5/15.0 | $\begin{gathered} 24.5 / 622 \\ 21 / 533 \end{gathered}$ | H | $\begin{aligned} & 380 / 172 \\ & 400 / 182 \end{aligned}$ | Net Ship | $\begin{aligned} & \text { 2ea } 1751 \text { SL (or } 1751 \mathrm{SLE} \text { ) in } 2 \varnothing 90^{\circ} \text {, \& } \\ & \text { lea } 400 \text { SR, 1ea signal cable } \\ & \text { ( } \quad 3500 \text { SLE-21 only } \end{aligned}$ |
| 6000-2 | 6000 | $\begin{aligned} & 0.65 \\ & 0-130 \\ & 0.260 \end{aligned}$ | $\begin{aligned} & \hline 54.5 \\ & 27.2 \\ & 13.6 \end{aligned}$ | 45 to 3K | $\begin{gathered} 208 \text { or 416, } \\ \text { L-L, } 30 \end{gathered}$ | 18.0 | $\begin{aligned} & 35 / 890 \\ & 22 / 560 \end{aligned}$ | H | $\begin{aligned} & 630 / 286 \\ & 722 / 328 \end{aligned}$ | Net Ship | 2ea 3001 in $2 \varnothing 90^{\circ}$, 1ea 400 SR, 1ea signal cable |

## Three Phase Output Pow er

| $153 B^{3}$ | 150 | $\begin{aligned} & 0.30 \\ & 0.130 \end{aligned}$ | $\begin{aligned} & 2.0 \\ & 0.45 \end{aligned}$ | 45 to 5K | 115 or 230,10 | 0.5 | $\begin{gathered} 5.25 / 133 \\ 17 / 432 \end{gathered}$ | $\begin{aligned} & \text { H } \\ & \text { D } \end{aligned}$ | $\begin{aligned} & 70 / 32 \\ & 80 / 36 \end{aligned}$ | Net Ship | For 0-30V range specify Model 153B-121 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 360-3 | 360 | $\begin{aligned} & 0.130 \\ & 0.260 \end{aligned}$ | $\begin{aligned} & 1.1 \\ & 0.55 \end{aligned}$ | 45 to 5K | 115 or 230, 10 | 1.3 | $\begin{gathered} 10.5 / 267 \\ 15 / 381 \end{gathered}$ | $\begin{aligned} & \hline \text { H } \\ & \text { D } \end{aligned}$ | $\begin{aligned} & 141 / 64 \\ & 153 / 70 \end{aligned}$ | Net Ship | 3ea 121B (4 wire Y), 2ea 400 SR, lea signal cable |
| 503A ${ }^{3}$ | 500 | $\begin{aligned} & 0.75 \\ & 0-130 \end{aligned}$ | $\begin{aligned} & 2.6 \\ & 1.5 \end{aligned}$ | 45 to 5K | 115 or 230, 10 | 1.5 | $\begin{gathered} \hline 8.75 / 220 \\ 19 / 482 \end{gathered}$ | $\begin{aligned} & \mathrm{H} \\ & \mathrm{D} \end{aligned}$ | $\begin{aligned} & 125 / 57 \\ & 130 / 59 \end{aligned}$ | Net Ship | 75 V L-N (130V L-L ) O-32V L-N option; Model 503B-121 |
| 750-3 | 750 | $\begin{aligned} & 0.32 \\ & 0-130 \\ & 0.260 \end{aligned}$ | $\begin{aligned} & 9.2 \\ & 2.25 \\ & 1.1 \end{aligned}$ | 45 to 5K | 115 or 230, 10 | 2.2 | $\begin{gathered} \hline 15.75 / 400 \\ 16 / 406 \end{gathered}$ | $\begin{aligned} & \mathrm{H} \\ & \mathrm{D} \end{aligned}$ | $\begin{aligned} & 147 / 66 \\ & 165 / 75 \end{aligned}$ | Net Ship | 3ea 251B (4 wire Y) 2ea 400 SR, lea signal cable |
| 1203 SL-XX3 | 1200 | $\begin{aligned} & 0.65 \\ & 0.130 \\ & 0.260 \end{aligned}$ | $\begin{aligned} & 9.7 \\ & 4.8 \\ & 2.4 \end{aligned}$ | 45 to 5K | $\begin{gathered} 115,208 \text { or } \\ 230,10 \end{gathered}$ | 3.5/5.4 | $\begin{gathered} \hline 8.75 / 220 \\ 21 / 533 \end{gathered}$ | $\begin{aligned} & \mathrm{H} \\ & \mathrm{D} \end{aligned}$ | $\begin{aligned} & 135 / 61 \\ & 142 / 65 \end{aligned}$ | $\begin{aligned} & \text { Net } \\ & \text { Ship } \end{aligned}$ |  |
| 2253 SL-0X3 | 2250 | $\begin{aligned} & 0.65 \\ & 0-130 \\ & 0.260 \end{aligned}$ | $\begin{gathered} \hline 17.3 \\ 8.65 \\ 4.3 \end{gathered}$ | 45 to 5K | 208, 30 | 6.7/9.6 | $\begin{aligned} & 14 / 536 \\ & 19 / 482 \end{aligned}$ | $\begin{aligned} & \mathrm{H} \\ & \mathrm{D} \end{aligned}$ | $\begin{aligned} & 207 / 95 \\ & 225 / 103 \end{aligned}$ | Net Ship |  |
| $\begin{aligned} & 3000 \text { SL-3-XX } \\ & \& \\ & 3000 \text { SLE-3-2X } \end{aligned}$ | 3000 | $\begin{aligned} & 0.65 \\ & 0-130 \\ & 0.260 \end{aligned}$ | $\begin{array}{r} 23.1 \\ 11.5 \\ 5.8 \end{array}$ | 45 to 5K | $\begin{gathered} 115,208,230, \\ 10 \text { or } 30 \end{gathered}$ | 9.0/12.6 | $\begin{aligned} & 21 / 533 \\ & 21 / 533 \end{aligned}$ | $\begin{aligned} & \mathrm{H} \\ & \mathrm{D} \end{aligned}$ | $\begin{aligned} & 390 / 177 \\ & 420 / 191 \end{aligned}$ | $\begin{aligned} & \text { Net } \\ & \text { Ship } \end{aligned}$ | ```3ea 1001 SL or }1001\mathrm{ SLE (4 wire Y), 2ea 400 SR, 1ea signal cable 3000 SLE-3-21 only``` |
| $\begin{aligned} & 52505 \text { SL-3-XX } \\ & \& \\ & 5250 \text { SLE-3-2X } \end{aligned}$ | 5250 | $\begin{aligned} & 0.65 \\ & 0-130 \\ & 0.260 \end{aligned}$ | $\begin{aligned} & \hline 40.4 \\ & 20.2 \\ & 10.1 \end{aligned}$ | 45 to 5K | $\begin{gathered} 115,208 \text { or } 230, \\ 10 \text { or } 30 \end{gathered}$ | 15.7/22.5 | $\begin{gathered} 36.75 / 933 \\ 21 / 533 \end{gathered}$ | $\begin{aligned} & \mathrm{H} \\ & \mathrm{D} \end{aligned}$ | $\begin{aligned} & 570 / 259 \\ & 600 / 273 \end{aligned}$ | $\begin{aligned} & \text { Net } \\ & \text { Ship } \end{aligned}$ | 3ea 1751 SL or 1751 SLE (4 wire Y), \& 2ea 400 SR, signal cable <br> C $\in 5250$ SLE-3-21 only |
| 9000-3 | 9000 | $\begin{aligned} & 0.65 \\ & 0-130 \\ & 0.260 \end{aligned}$ | $\begin{aligned} & \hline 54.5 \\ & 27.2 \\ & 13.6 \end{aligned}$ | 45 to 3K | $\begin{gathered} 208, \text { or } 416 \\ L-L, 3 \varnothing \end{gathered}$ | 27.0 | $\begin{gathered} \hline 52.5 / 1335 \\ 22 / 560 \end{gathered}$ | $\begin{aligned} & \mathrm{H} \\ & \mathrm{D} \end{aligned}$ | $\begin{gathered} \hline 945 / 429 \\ 1083 / 492 \end{gathered}$ | Net Ship | 3ea 3001 (4 wire Y), 2ea 400 SR, lea signal cable |
| 18000-3 | 18000 | $\begin{aligned} & 0-130 \\ & 0.260 \\ & 0.560 \end{aligned}$ | $\begin{aligned} & \hline 54.5 \\ & 27.2 \\ & 13.6 \end{aligned}$ | 45 to 3K | $\begin{gathered} 208 \text { or } 416 \\ \text { L-L, } 3 \varnothing \end{gathered}$ | 54.0 | $\begin{gathered} 105 / 2670 \\ 22 / 560 \end{gathered}$ | $\begin{aligned} & \mathrm{H} \\ & \mathrm{D} \end{aligned}$ | $\begin{aligned} & \hline 1890 / 858 \\ & 2166 / 984 \end{aligned}$ | $\begin{aligned} & \text { Net } \\ & \text { Ship } \end{aligned}$ | 6ea 3001 ( 4 wire Y), 5ea 400 SR, lea signal cable |

*Other configurations available, please contact the factory.
1 All SL models are specified at $150 \%$ of nominal output current into a linear resistive load.
2 SL models show value in VA for both nominal and $150 \%$ load.
3 Three-phase system in one chassis.

## SL AND SX MODELS

Elgar's know ledgeable application engineers and sales administrators will help you determine which AC power source and oscillator or Plug-In Programmer fits your application. Here are the steps we'll go through with you to determine the model number of a single chassis unit. For multiple unit configurations, please consult an applications engineer or sales administrator.

To determine the model number, please refer to the diagram on the right and follow the steps below.

1. First, determine the power range necessary. This will help to indicate the basic model number (eg. $350 \mathrm{VA}=$ model $351,500 \mathrm{VA}=$ model 501 , $750 \mathrm{VA}=$ model 751 , etc.).
2. Determine the model type depending upon the specific application (either SL or SX).
3. Select the input power option; see chart for the choices available.
4. Determine the output voltage range you require. There are eight voltage ranges from which to choose.
5. Indicate any standard options you may need (test, disconnect, synchronization or parallel output capability).
6. If any non-standard options or features are required for your specific application, an additional three-digit number will be assigned to our power source.

## MODEL NUMBER DESCRIPTION



## B SERIES MODELS

Many of the options available on the SL and SX Series are available on the B Series. Please call Elgar to discuss your specific requirements with an applications engineer or sales administrator.

## CONFIGURATION TIPS

1. Automatic Range Change requires the use of a PIP or a $400 \mathrm{SD} / \mathrm{SP}$ oscillator with - 110 option (e.g. 401 SD-001-110).
2. The Test ("T") option must be selected on both the AC source and the PIP.
3. The Synchronization ("S") option allows two or more PIP 9023 controllers to be frequency phase locked together.

## POWER SOURCE RATINGS




## PRODUCT OVERVIEW

Elgar's SX Series AC linear power sources are designed to drive non-linear, capacitive input filter rectifier loads. They meet all the electrical pow er requirements for testing modern switch mode DC power supplies.

Increased peak power capacity and a reduced physical size make the SX units ideal for benchtop testing as well as for automated DC power supply test systems.

## FEATURES AND BENEFITS

## CONTINUOUS DUTY AT

 150\% RATED CAPACITYDue to their conservative design, the SX Series provides continuous duty at 150\% rated capacity into a linear resistive load (see chart on page 25).

## HIGH CREST FACTOR

The SX Series is ideal for power supply test, with a crest factor capability of 3.5 and up to 6.1 on firing angles of less than 10 degrees from the voltage peak.
LOW EFFECTIVE OUTPUT IMPEDANCE
High impedance inhibits the quick transfer of current to the load source, which reduces peak current. Elgar linear sources typically offer less than $0.05 \Omega$, allowing quick transfer of peak current to the load.

## RANGE CHANGE RELAYS

The SX Series comes standard with programmable range change relays, making switching betw een the $0-130$ and $0-260 \mathrm{~V}$ ranges easy. This allows quick testing of both U.S. and European electronic equipment.

## CONFIGURABLE

SX Series components are used as building blocks for creating a full range of single, dual and three phase AC power sources.

## OUTPUT POWER VOLT AMPERE RATING

Single-phase
Dual-phase
Three-phase
500 VA to 5250 VA 1000 VA to 10.5 kVA 1500 VA to 15.75 kVA

## tWO YEAR WARRANTY

Elgar offers a two year warranty on the SX Series power supplies.


1001 SX AND PIP 704

## OPTIONS

## PROGRAMMABLE VIA IEEE-488 GPIB

The SX Series, when used with an Elgar Plug-In Programmer, provides full GPIB control of voltage, frequency, phase angle, voltage dropouts and test readback of output parameters.

## TEST OPTION/BUILT-IN TEST EQUIPMENT (BITE)

This optional feature is available when used with an Elgar PIP 9012A, PIP 9023 or PIP 704 that also has the test option. Depending on the PIP, the RMS voltage, RMS current, frequency, phase angle and RMS power in watts can be read from the front panel or over the GPIB.

## PROGRAMMABLE CURRENT LIMIT

When equipped with the test option (BuiltIn Test Equipment/BITE), a current limit may be programmed via the GPIB or from the front panel, which if exceeded, will cause system shutdown and status reporting.

## REMOTE SENSE

This feature provides full programming accuracy without sacrificing response time and is available with Elgar Plug-In Programmers and other selected oscillators for $0.015 \%$ regulation.

## dISCONNECT RELAY

The optional internal output relay connects the load to the output of the power source under GPIB control or from the front panel keypad with a Plug-In Programmer.
EMC/SAFETY (SXE Models Only)
C
The 1751SXE has been designed to meet the requirements for CE mark.

## MATE QUALIFIED - EMBEDDED TMA

The SX Series can be modified to meet U.S. Air Force (MATE) guidelines. All requirements of MATE-STD-280673 including built-in TMA for CIIL interfacing can be met when the SX is used with a MATE-compatible Plug-In Programmer.

## APPLICATIONS

The SX Series can maximize power supply test productivity and improve test quality. Key tests can be performed under program control for repeatability and accuracy, such as static line regulation and frequency margins, dynamic line regulation to check sudden line drops or missing cycles, startup time under various line conditions, hold-up time and power sequencing, inrush current testing, plus ramp-up and ramp-down tests for soft start and power failure signals.
High speed, high accuracy testing of DC power supplies is now possible at a reduced cost in a reduced package size. The SX Series is designed for testing both $A C$ and DC switch mode power supplies.

- Production line testing
- Power cycling for burn-in applications
- Testing for pow er line disturbance susceptibility
- Uninterruptible power supply testing


## SPECIFICATIONS

## OUTPUT

Voltage Range: 0-65/130/260 VAC (varies per model). Specific output range is selected by jumper change on rear panel. Consult Elgar for other voltage ranges.
Rated Power Voltage Range: Full rated VA from $55-65 \mathrm{VAC}, 110-130 \mathrm{VAC}$, or $220-260$ VAC over a $\pm 10 \%$ input and rated PF range. Continuous duty at $150 \%$ of rated capacity at $55^{\circ} \mathrm{C}^{*}$
Load Power Factor: Unity to $\pm 0.7 \mathrm{PF}$ to rated VA with an output voltage adjustment range of $80-100 \%$ of full scale*
Frequency Range: 45 Hz to 1 kHz

Total Harmonic Distortion:
$0.5 \%$ from 45 Hz to 1 kHz with linear load $1.0 \%$ from 45 Hz to 75 Hz with pulsed load $4.0 \%$ from 75 Hz to 450 Hz with pulsed load
Load Regulation: $\pm 1 \%$ from 45 Hz to 450 Hz with pulsed load or from 45 Hz to 1 kHz with linear load

Line Regulation: $\pm 0.25 \%$ at rated load for a $\pm 10 \%$ input change at full scale output voltage

Response Time: <2 ms
AC Noise Level: 70 dB below full output voltage with input grounded

## INPUT

Voltage: $115 / 208 / 230$ VAC, $\pm 10 \%$ (208 VAC not available on 501 SX .) User selectable (See model description on page 23)

Frequency: 47 to $63 \mathrm{~Hz}(400 \mathrm{~Hz}$ option, special order)
Efficiency: Up to 45\%
GENERAL
Operating Temperature Range: $0^{\circ}$ to $+55^{\circ} \mathrm{C}$

Operating Humidity Range: Up to 95\% non- condensing
Metering: 0 to 300 VAC output voltmeter, $\pm 3 \%$ accuracy

Controls: Input power switch/circuit breaker and pilot light. Full range, 10 -turn output voltage control potentiometer

* See power derating curve on page 23.


## Single-Phase Output Power

| Model | Power |  | Output |  | Input |  | Physical |  |  |  | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total VA | Vol. Range (RMS)L-N | Max Current (RMS) ${ }^{1}$ | Frequency Range (Hz) | Voltage and Nominal/ Max |  | Height and Depth (in/mm) |  | Weight <br> (lbs/kg) |  |  |
|  |  |  |  |  | Phase | $(\mathrm{kVA})^{2}$ |  |  |  |  |  |
| 501 SX-X4 | 500 | 0.65 | 11.5/36 | 45 to 1k | 115 or 230, | 1.5/2.2 | 5.25/133 | H | 80/36 | Net |  |
|  |  | 0-130 | 5.8/18 |  | 10 |  | 21/533 | D | 88/40 | Ship |  |
|  |  | 0.260 | 2.9/9 |  |  |  |  |  |  |  |  |
| 1001 SX-X4 | 1000 | 0.65 | 23.1/72 | 45 to 1k | 115, 208 or | 3.0/4.2 | 7.00/178 | H | 130/59 | Net |  |
|  |  | 0.130 | 11.5/36 |  | 230,10 |  | 21/533 | D | 140/64 | Ship |  |
|  |  | 0.260 | 5.8/18 |  |  |  |  |  |  |  |  |
| $\begin{array}{\|l\|} \hline 1751 \text { SX-X4 } \\ \text { \& } \\ 1751 \text { SXE-2X } \\ \hline \end{array}$ | 1750 | 0.65 | 40.4/120 | 45 to 1k | 115,108 or | 5.2/7.5 | 12.25/311 | H | 195/89 | Net |  |
|  |  | 0-130 | 20.2/60 |  | 230,10 |  |  | D | 205/93 | Ship |  |
|  |  | 0.260 | 10.1/30 |  |  |  |  |  |  |  | C $\mathcal{1 7 5 1}$ SXE-24 only |

## Dual-Phase Output Power

| 1000 SX-2-X4 | 1000 | $\begin{aligned} & 0-65 \\ & 0-130 \\ & 0-260 \end{aligned}$ | $\begin{aligned} & 11.5 / 36 \\ & 5.8 / 18 \\ & 2.9 / 9 \end{aligned}$ | 45 to 1k | $\begin{gathered} 115 \text { or } 230, \\ 10 \end{gathered}$ | 3.0/4.4 | $\begin{gathered} 10.50 / 267 \\ 21 / 533 \end{gathered}$ | $\begin{aligned} & \text { H } \\ & \text { D } \end{aligned}$ | $\begin{aligned} & 160 / 73 \\ & 176 / 80 \end{aligned}$ | Net <br> Ship | 2 ea 501 SX in $2 \varnothing 90^{\circ}$, 1ea 400 SR, 1ea signal cable |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2000 SX-2-X4 | 2000 | $\begin{aligned} & 0.65 \\ & 0.130 \\ & 0.260 \end{aligned}$ | $\begin{aligned} & \hline 23.1 / 72 \\ & 11.5 / 36 \\ & 5.8 / 18 \end{aligned}$ | 45 to 1k | $\begin{gathered} \text { 115,208 or } \\ 230,10 \end{gathered}$ | 6.0/8.4 | $\begin{aligned} & 14 / 356 \\ & 21 / 533 \end{aligned}$ | $\begin{aligned} & \mathrm{H} \\ & \mathrm{D} \end{aligned}$ | $\begin{array}{\|l\|} \hline 260 / 118 \\ 280 / 127 \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { Net } \\ & \text { Ship } \end{aligned}$ | 2ea 1001 SX in $2 \varnothing 90^{\circ}$, 1ea 400 SR , 1ea signal cable |
| $\begin{aligned} & \hline 3500 \text { SX-2-X4 } \\ & \& \\ & 3500 \text { SXE-2-2X } \end{aligned}$ | 3500 | $\begin{aligned} & 0.65 \\ & 0-130 \\ & 0.260 \end{aligned}$ | $\begin{aligned} & \hline 40.4 / 120 \\ & 20.2 / 60 \\ & 10.1 / 30 \end{aligned}$ | 45 to 1k | $\begin{gathered} 115,208 \text { or } \\ 230,10 \end{gathered}$ | 10.5/15.0 | $\begin{gathered} 24.50 / 622 \\ 21 / 533 \end{gathered}$ | H D | $\begin{array}{\|l\|} \hline 390 / 177 \\ 410 / 186 \end{array}$ | $\begin{aligned} & \text { Net } \\ & \text { Ship } \end{aligned}$ | $\begin{aligned} & 2 \text { ea } 1751 \text { SX or } 1751 \text { SXE in } 2 \varnothing 90^{\circ} \text {, } \\ & 1 \text { ea } 400 \text { SR, } 1 \text { ea signal cable } \\ & C \in 3500 \text { SXE-2-24 only } \end{aligned}$ |

Three-Phase Output Power

| 1500 SX-3-X4 | 1500 | $\begin{aligned} & 0-65 \\ & 0-130 \\ & 0-260 \end{aligned}$ | $\begin{aligned} & 11.5 / 36 \\ & 5.8 / 18 \\ & 2.9 / 9 \\ & \hline \end{aligned}$ | 45 to 1k | $\begin{gathered} 115 \text { or } 230, \\ 10 \text { or } 30 \end{gathered}$ | 4.5/6.6 | $\begin{gathered} \text { 15.75/400 } \\ 21 / 533 \end{gathered}$ | $\begin{aligned} & H \\ & \text { D } \end{aligned}$ | $\begin{aligned} & 240 / 109 \\ & 264 / 120 \end{aligned}$ | Net Ship | 3 ea 501 SX ( 4 wire Y ), <br> 2 ea 400 SR, 1 ea signal cable |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3000 SX-3-X4 | 3000 | $\begin{aligned} & 0-65 \\ & 0-130 \\ & 0-260 \end{aligned}$ | $\begin{aligned} & 23.1 / 72 \\ & 11.5 / 36 \\ & 5.8 / 18 \end{aligned}$ | 45 to 1k | $\begin{gathered} 115,208 \text { or } \\ 230,10 \text { or } 30 \end{gathered}$ | 9.0112.6 | $\begin{aligned} & 21 / 533 \\ & 21 / 533 \end{aligned}$ | $\begin{aligned} & \text { H } \\ & \text { D } \end{aligned}$ | $\begin{aligned} & 390 / 177 \\ & 420 / 191 \end{aligned}$ | Net <br> Ship | 3 ea 1001 SX (4 wire Y) <br> 2 ea 400 SR, 1 ea signal cable |
| $\begin{aligned} & 5250 \text { SX-3-X4 } \\ & \& \\ & 5250 \text { SXE-3-2X } \end{aligned}$ | 5250 | $\begin{aligned} & 0.65 \\ & 0-130 \\ & 0-260 \end{aligned}$ | $\begin{aligned} & 40.4 / 120 \\ & 20.2 / 60 \\ & 10.1 / 30 \end{aligned}$ | 45 to 1k | $\begin{gathered} 115,208 \text { or } \\ 230,10 \text { or } 30 \end{gathered}$ | 15.7/22.5 | $\begin{gathered} 36.75 / 933 \\ 21 / 533 \end{gathered}$ | H D | $\begin{aligned} & 585 / 266 \\ & 615 / 280 \end{aligned}$ | Net <br> Ship | 3 ea 1751 SX or 1751 SXE ( 4 wire Y), 2 ea 400 SR, lea signal cable C $\in 5250$ SXE-3-24 only |

[^1]
[^0]:    1 All SL models are specified at $150 \%$ of normal output current into a linear resistive load
    2 SL models show value in kVA for both nominal and $150 \%$ load

[^1]:    1 All SX models specified are at $150 \%$ of nominal output current into a linear resistive load.
    2 Maximum volt/amps under worst case conditions of load and input line at $150 \%$ capacity.

