

**SES L SERIES** - SINGLE PHASE - 1 to 50 kVA

**COST EFFICIENT VOLTAGE STABILIZATION** with fast speed of response. High output voltage accuracy and inbuilt energy saving ability.

**FEATURES**

- **Automatic Voltage Regulation**  
Step less automated voltage regulation - ideal for 95% of all applications.
- **Wide Range of Power Ratings**  
Single Phase up to 50 KVA
- **Broad Input Voltage Swing Ranges**  
Input Swing -  $\pm 15\%$  (S15),  $\pm 20\%$  (S20),  $\pm 25\%$  (S25),  $\pm 30\%$  (S30),  $\pm 35\%$  (S35) &  $\pm 40\%$  (S40) - to specify.
- **Precise Output Voltage Regulation**  
Output Voltage Accuracy  $\pm 1\%$
- **Transient Voltage Surge Suppression**  
TVSS - Protects loads against harmful high-energy surges, transients and spikes.
- **High Efficiency**  
Better than 98% for low running costs.



SERVO **ELECTRONIC** DESIGN  
**AC VOLTAGE STABILIZERS & REGULATORS**  
AC **SINGLE PHASE** - 1 TO 50 KVA

**SES**  
L - SINGLE PHASE 

**ENSURING A STABLE AC UTILITY SUPPLY VOLTAGE**

AC utility supply voltage fluctuations can cause equipment to behave erratically and malfunction. Some systems may even break down due to these fluctuations, noise or spikes. Failure to ensure the incoming utility voltage is stable and clean can often result in costly equipment repairs and unscheduled down-time.

**Ashley-Edison AC Voltage Stabilizers offer -**

- **Voltage Stability & Protection**  
Suitable for all electrical and electronic equipment, Ashley-Edison's SES AC Voltage Stabilizers continuously monitor the incoming supply. Should the incoming voltage rise or drop, the Stabilizers will automatically control the output to ensure the voltage reaching the load equipment always remains constant at the requisite voltage. Inbuilt spike protection ensures the load is continuously protected against harmful utility supply born high energy spikes and surges.
- **Durability & Dependability**  
With an impressively wide range of input voltage window options and precise output voltage regulation, the electro-mechanical / electronic servo design based SES Voltage Stabilizers have repeatedly proven their durability and dependability in some of the world's harshest and most demanding power environments.
- **Energy Efficiency**  
Characterized by high efficiency, SES Stabilizers are completely unaffected by power factor and load variations. Able to withstand high instantaneous overloads, SES Stabilizers do not generate any magnetic interference - making them ideal for being located near to sensitive equipment. Through delivering a regulated, stable and optimized voltage to the equipment they support, SES Stabilizers ensure you only pay for the actual energy you need.
- **Unparalleled Protection and Value**  
Unparalleled inbuilt protection features, including the provision of Soft Switch-On as standard on all models, ensures SES AC Voltage Stabilizers deliver, without compromising on technical performance or quality, outstanding value for money.

- **Inbuilt High Overload Capability**  
Ideal for loads with an inherent initial high current draw on start up.
- **Input Circuit Breaker**  
Standard protection on all models
- **Bypass Control Switch**  
Manual Electronic Controls Bypass Facility
- **Soft - Switch On**  
Load protection on Start Up
- **Optional Accessories**  
Output Circuit Breaker, Full Manual Maintenance Bypass Switch, Over / Low Voltage Protection & Lightning Arrestors
- **Compliance with International Standards**  
Designed, manufactured and supplied to comply with leading international standards
- **CE Conformity**  
Fully compliant and labelled
- **Warranty**  
3 Years / 36 Months as standard

**Available Standard Models:**

- **L Series - Low Voltage Models**  
100V, 110V, 115V, 120V or 127V (Single Phase)
- **H Series - High Voltage Models**  
220V, 230V or 240V (Single Phase)
- **LH & HL Series**  
Step Up & Step Down Voltage Models (Single Phase)

## VOLTAGE CHOICES AVAILABLE

### 2 WIRE SOLUTIONS

SINGLE PHASE WITH NEUTRAL (+ GROUND)

#### L SERIES

1 to 50kVA

#### Low Voltage Models:

100V, 110V, 115V, 120V or 127V.

Other voltages available on individual request / quotation.



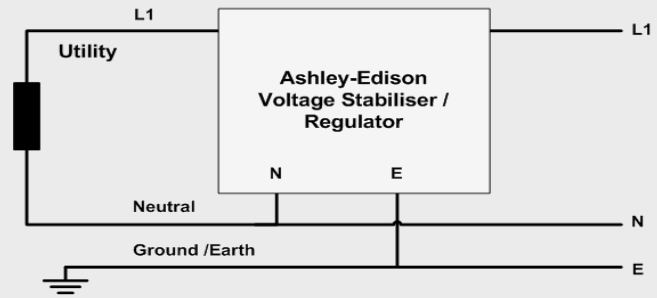
#### H SERIES

1 to 100 kVA

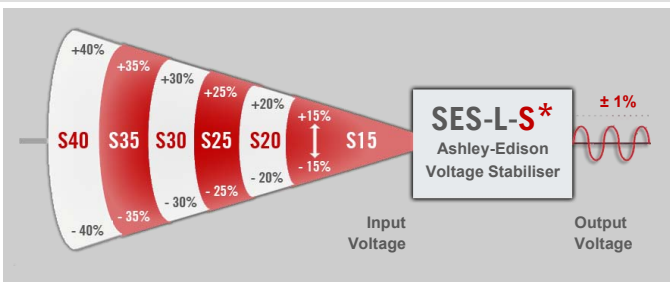
#### High Voltage Models:

220V, 230V or 240V.

Other voltages available on individual request / quotation.



## L SERIES INPUT VOLTAGE WINDOW OPTIONS



In situations where there is a reasonably good utility supply, a Stabiliser offering an input variation swing of  $\pm 15\%$  (S15 Models) will usually be more than acceptable, but in more remote locations, or countries where the national supply infrastructure is less developed, variations of  $\pm 20\%$  or greater may be needed to be accommodated by the Stabiliser.

**Please Note** – These Stabilisers are not designed to support / protect voltage “back feed” applications, where energy is required to be also fed back into the utility supply.



## L SERIES - SES-L-S\* Input Voltage Windows & Output Accuracy

Nominal Single Phase Voltage	Output Voltage Accuracy $\pm\%$ of Nominal	INPUT VOLTAGE SWINGS / SWING MODEL NO VARIANTS					
		S15	S20	S25	S30	S35	S40
		Up to 50 kVA	Up to 40 kVA	Up to 40 kVA	Up to 30 kVA	Up to 20kVA	Up to 20 kVA
100V	$\pm 1\%$	85v to 115v ( $\pm 15\%$ )	80v to 120v ( $\pm 20\%$ )	75v to 125v ( $\pm 25\%$ )	70v to 130v ( $\pm 30\%$ )	65v to 135v ( $\pm 35\%$ )	60v to 140v ( $\pm 40\%$ )
	$\pm 3\%$	83v to 118v (-17% / +18%)	78v to 123v (-22% / +23%)	73v to 128v (-27% / +28%)	68v to 133v (-32% / +33%)	63v to 138v (-37% / +38%)	58v to 143v (-42% / +43%)
	$\pm 5\%$	81v to 121v (-19% / +21%)	76v to 126v (-24% / +26%)	71v to 131v (-29% / +31%)	66v to 136v (-34% / +36%)	61v to 141v (-39% / +41%)	56v to 146v (-44% / +46%)
110V	$\pm 1\%$	94v to 127v ( $\pm 15\%$ )	88v to 132v ( $\pm 20\%$ )	83v to 138v ( $\pm 25\%$ )	77v to 143v ( $\pm 30\%$ )	72v to 149v ( $\pm 35\%$ )	66v to 154v ( $\pm 40\%$ )
	$\pm 3\%$	91v to 130v (-17% / +18%)	86v to 135v (-22% / +23%)	80v to 141v (-27% / +28%)	75v to 146v (-32% / +33%)	69v to 152v (-37% / +38%)	64v to 157v (-42% / +43%)
	$\pm 5\%$	89v to 133v (-19% / +21%)	84v to 139v (-24% / +26%)	78v to 144v (-29% / +31%)	73v to 150v (-34% / +36%)	67v to 155v (-39% / +41%)	62v to 161v (-44% / +46%)
115V	$\pm 1\%$	98v to 132v ( $\pm 15\%$ )	92v to 138v ( $\pm 20\%$ )	86v to 144v ( $\pm 25\%$ )	81v to 150v ( $\pm 30\%$ )	75v to 155v ( $\pm 35\%$ )	69v to 161v ( $\pm 40\%$ )
	$\pm 3\%$	95v to 136v (-17% / +18%)	90v to 141v (-22% / +23%)	84v to 147v (-27% / +28%)	78v to 153v (-32% / +33%)	72v to 159v (-37% / +38%)	67v to 164v (-42% / +43%)
	$\pm 5\%$	93v to 139v (-19% / +21%)	87v to 145v (-24% / +26%)	82v to 151v (-29% / +31%)	76v to 156v (-34% / +36%)	70v to 162v (-39% / +41%)	64v to 168v (-44% / +46%)
120V	$\pm 1\%$	102v to 138v ( $\pm 15\%$ )	96v to 144v ( $\pm 20\%$ )	90v to 150v ( $\pm 25\%$ )	84v to 156v ( $\pm 30\%$ )	78v to 162v ( $\pm 35\%$ )	72v to 168v ( $\pm 40\%$ )
	$\pm 3\%$	100v to 142v (-17% / +18%)	94v to 148v (-22% / +23%)	88v to 154v (-27% / +28%)	82v to 160v (-32% / +33%)	76v to 166v (-37% / +38%)	70v to 172v (-42% / +43%)
	$\pm 5\%$	97v to 145v (-19% / +21%)	91v to 151v (-24% / +26%)	85v to 157v (-29% / +31%)	79v to 163v (-34% / +36%)	73v to 169v (-39% / +41%)	67v to 175v (-44% / +46%)
127V	$\pm 1\%$	108v to 146v ( $\pm 15\%$ )	102v to 152v ( $\pm 20\%$ )	95v to 159v ( $\pm 25\%$ )	89v to 165v ( $\pm 30\%$ )	83v to 171v ( $\pm 35\%$ )	76v to 178v ( $\pm 40\%$ )
	$\pm 3\%$	105v to 150v (-17% / +18%)	99v to 156v (-22% / +23%)	93v to 163v (-27% / +28%)	86v to 169v (-32% / +33%)	80v to 175v (-37% / +38%)	74v to 182v (-42% / +43%)
	$\pm 5\%$	103v to 154v (-19% / +21%)	97v to 160v (-24% / +26%)	90v to 166v (-29% / +31%)	84v to 173v (-34% / +36%)	77v to 179v (-39% / +41%)	71v to 185v (-44% / +46%)

**TECHNICAL SPECIFICATION**

<b>Technology:</b>	Servo Electronic - Variable Transformer controlled, series regulation transformer (buck-boast transformer with secondary wired in series with the load).
<b>Input Voltage Swing:</b>	±15% (or -17% +18% or -19% +21%) Single Phase, 2 Wire.
<b>Output Voltage:</b>	Pre-settable for any voltage between 100V, 110V, 115V & 120V. (Customer to specify), Single Phase, 2 Wire. 127V models also available.  The permissible input voltage swing is relative to the preset output voltage.
<b>Output Voltage Accuracy:</b>	± 1%, ± 3% or ± 5% - auto selection based on input voltage swing.
<b>Frequency:</b>	47 - 65Hz
<b>Response Time:</b>	<1.5ms
<b>Correction Time:</b>	A 10% supply variation will be corrected to within 2.5% in 0.6 seconds.
<b>Efficiency:</b>	98%
<b>Power Factor:</b>	Any lagging to 0.95 leading
<b>Surge Ratings:</b>	10 x max. current rating for 2 seconds 3 x max. current rating for 1 minute 2 x max. current rating for 2 minutes
<b>Surge Suppression:</b>	TVSS - Protects loads against high-energy Spikes and Transient Voltages.
<b>Total Harmonic Distortion:</b>	Less than 1%
<b>Soft-Switch On:</b>	Ensures the output voltage is set at minimum upon Switch-On before commencing stabilization - protects load equipment from damaging start up voltage surges.
<b>Environment:</b>	Temperature range -15 to 45 °C. Derate by 2% for each additional °C Up to max 60 °C. Suitable for indoor tropical use 95% RH (non-condensing). Maximum altitude 1000m. Derate by 2.5% for each additional 500m.

<b>Construction:</b>	Enclosures to NEMA 1 Style (IP20) - BS EN 60529.
<b>Paint Colour:</b>	RAL 7032 (Grey - Epoxy Powder Coating)
<b>EMC Conformance:</b>	Complies with BS EN 55022 and the relevant parts of the BS EN 61000 series of standards.
<b>CE Conformity:</b>	<b>CE Marked</b> - being fully compliant with European Union Directives 2004/108/EC (The EMC Directive) and 2006/95/EC (The Low Voltage Directive).
<b>Standard Warranty:</b>	Three Years / 36 Months from date of supply
<b>Standard Features:</b>	<b>SES-1L - 5L</b> Input Circuit Breaker Input / Output Terminals Bypass Control Switch Universal Output Socket  <b>SES-8L - 50L</b> Input Circuit Breaker Input / Output Terminals Output Voltmeter and Ammeter Bypass Control Switch Free Standing Enclosure on Castors
<b>Optional Accessories:</b>	Over / Low Voltage Protection, Voltmeter & Ammeter Manual Maintenance Bypass Switch Lightning Surge Arrestor Digital Power Metering - showing V,A,W,VA,AER,PF & kWh AquaStop Protective Coating - protection against damp and moisture ingress
<b>Optional Step Down Voltage Feature:</b>	Ideal for applications where the utility supply voltage is different from the load equipment's requirement - see <b>SES-LH SERIES</b> Step Up AC Voltage Stabilizers.
<b>Optional Isolation Transformer:</b>	Shielded isolation transformer providing extra protection between the utility and the load. Protects against common and transverse mode electrical noise - see <b>PCS-L SERIES</b> AC Power Conditioners.

Note: Optional Accessories added may affect dimensions - subject to confirmation.

**S15 PRODUCT SELECTION TABLE**

ALSO available in

Outdoor NEMA 3 Style / IP54  
Enclosures - **OSER SERIES**19" Rack Mount Enclosures -  
**SES-R SERIES** - up to 10 kVA

Model	Rating kVA	Max Rating (Amps)					Dimensions (mm) W x H x D	Weight (Kg)	Enclosure Type
		@ 100V	@ 110V	@ 115V	@ 120V	@ 127V			
SES-1L-S15	1	10	9	8.7	8.3	7.9	210 x 260 x 420	19	016A
SES-2L-S15	2	20	18	17.4	16.7	15.7	210 x 260 x 420	19.5	016A
SES-3L-S15	3	30	27	26	25	23	210 x 260 x 420	20	016A
SES-4L-S15	4	40	36	34	33	31	210 x 260 x 420	22	016A
SES-5L-S15	5	50	46	44	42	39	210 x 260 x 420	23	016A
SES-8L-S15	8	80	73	70	67	63	270 x 460 x 490	44	102
SES-10L-S15	10	100	91	87	83	78	270 x 460 x 490	46	102
SES-15L-S15	15	150	136	130	125	118	400 x 580 x 500	56	103
SES-20L-S15	20	200	182	174	167	157	400 x 580 x 500	75	103
SES-30L-S15	30	300	273	261	250	236	500 x 900 x 600	132	104
SES-40L-S15	40	400	364	348	333	315	600 x 1170 x 700	220	105
SES-50L-S15	50	500	454	434	416	393	600 x 1170 x 700	240	105

**TECHNICAL SPECIFICATION**

<b>Technology:</b>	Servo Electronic - Variable Transformer controlled, series regulation transformer (buck-boast transformer with secondary wired in series with the load).
<b>Input Voltage Swing:</b>	±20% (or -22% +23% or -24% +26%) Single Phase, 2 Wire.
<b>Output Voltage:</b>	Presetable for any voltage between 100V, 110V, 115V & 120V. (Customer to specify), Single Phase, 2 Wire. 127V models also available.  The permissible input voltage swing is relative to the preset output voltage.
<b>Output Voltage Accuracy:</b>	± 1%, ± 3% or ± 5% - auto selection based on input voltage swing.
<b>Frequency:</b>	47 - 65Hz
<b>Response Time:</b>	<1.5ms
<b>Correction Time:</b>	A 10% supply variation will be corrected to within 2.5% in 0.6 seconds.
<b>Efficiency:</b>	98%
<b>Power Factor:</b>	Any lagging to 0.95 leading
<b>Surge Ratings:</b>	10 x max. current rating for 2 seconds 3 x max. current rating for 1 minute 2 x max. current rating for 2 minutes
<b>Surge Suppression:</b>	TVSS - Protects loads against high-energy Spikes and Transient Voltages.
<b>Total Harmonic Distortion:</b>	Less than 1%
<b>Soft-Switch On:</b>	Ensures the output voltage is set at minimum upon Switch-On before commencing stabilization - protects load equipment from damaging start up voltage surges.
<b>Environment:</b>	Temperature range -15 to 45 °C. Derate by 2% for each additional °C Up to max 60 °C . Suitable for indoor tropical use 95% RH (non-condensing). Maximum altitude 1000m. Derate by 2.5% for each additional 500m.

<b>Construction:</b>	Enclosures to NEMA 1 Style (IP20) - BS EN 60529.
<b>Paint Colour:</b>	RAL 7032 (Grey - Epoxy Powder Coating)
<b>EMC Conformance:</b>	Complies with BS EN 55022 and the relevant parts of the BS EN 61000 series of standards.
<b>CE Conformity:</b>	<b>CE Marked</b> - being fully compliant with European Union Directives 2004/108/EC (The EMC Directive) and 2006/95/EC (The Low Voltage Directive).
<b>Standard Warranty:</b>	Three Years / 36 Months from date of supply
<b>Standard Features:</b>	<b>SES-1L - 5L</b> Input Circuit Breaker Input / Output Terminals Bypass Control Switch Universal Output Socket  <b>SES-8L - 40L</b> Input Circuit Breaker Input / Output Terminals Output Voltmeter and Ammeter Bypass Control Switch Free Standing Enclosure on Castors
<b>Optional Accessories:</b>	Over / Low Voltage Protection, Voltmeter & Ammeter Manual Maintenance Bypass Switch Lightning Surge Arrestor Digital Power Metering - showing V,A,W,VA,AER,PF & kWh AquaStop Protective Coating - protection against damp and moisture ingress
<b>Optional Step Down Voltage Feature:</b>	Ideal for applications where the utility supply voltage is different from the load equipment's requirement - see <b>SES-LH SERIES</b> Step Up AC Voltage Stabilizers.
<b>Optional Isolation Transformer:</b>	Shielded isolation transformer providing extra protection between the utility and the load. Protects against common and transverse mode electrical noise - see <b>PCS-L SERIES</b> AC Power Conditioners.

Note: Optional Accessories added may affect dimensions - subject to confirmation.

**S20 PRODUCT SELECTION TABLE**

ALSO available in

Outdoor NEMA 3 Style / IP54  
Enclosures - **OSER SERIES**19" Rack Mount Enclosures -  
**SES-R SERIES** - up to 10 kVA

Model	Rating kVA	Max Rating (Amps)					Dimensions (mm) W x H x D	Weight (Kg)	Enclosure Type
		@ 100V	@ 110V	@ 115V	@ 120V	@ 127V			
SES-1L-S20	1	10	9	8.7	8.3	7.9	210 x 260 x 420	22	016A
SES-2L-S20	2	20	18	17.4	16.7	15.7	210 x 260 x 420	22.5	016A
SES-3L-S20	3	30	27	26	25	23	210 x 260 x 420	23	016A
SES-4L-S20	4	40	36	34	33	31	210 x 260 x 420	25	016A
SES-5L-S20	5	50	46	44	42	39	210 x 260 x 420	26	016A
SES-8L-S20	8	80	73	70	67	63	270 x 460 x 490	51	102
SES-10L-S20	10	100	91	87	83	78	270 x 460 x 490	53	102
SES-15L-S20	15	150	136	130	125	118	400 x 580 x 500	73	103
SES-20L-S20	20	200	182	174	167	157	400 x 700 x 600	109	104A
SES-30L-S20	30	300	273	261	250	236	600 x 1170 x 700	235	105
SES-40L-S20	40	400	364	348	333	315	600 x 1170 x 700	260	105

**TECHNICAL SPECIFICATION**

<b>Technology:</b>	Servo Electronic - Variable Transformer controlled, series regulation transformer (buck-boast transformer with secondary wired in series with the load).
<b>Input Voltage Swing:</b>	±25% (or -27% +28% or -29% +31%) Single Phase, 2 Wire.
<b>Output Voltage:</b>	Pre-settable for any voltage between 100V, 110V, 115V & 120V. (Customer to specify), Single Phase, 2 Wire. 127V models also available.  The permissible input voltage swing is relative to the preset output voltage.
<b>Output Voltage Accuracy:</b>	± 1%, ± 3% or ± 5% - auto selection based on input voltage swing.
<b>Frequency:</b>	47 - 65Hz
<b>Response Time:</b>	<1.5ms
<b>Correction Time:</b>	A 10% supply variation will be corrected to within 2.5% in 0.6 seconds.
<b>Efficiency:</b>	98%
<b>Power Factor:</b>	Any lagging to 0.95 leading
<b>Surge Ratings:</b>	10 x max. current rating for 2 seconds 3 x max. current rating for 1 minute 2 x max. current rating for 2 minutes
<b>Surge Suppression:</b>	TVSS - Protects loads against high-energy Spikes and Transient Voltages.
<b>Total Harmonic Distortion:</b>	Less than 1%
<b>Soft-Switch On:</b>	Ensures the output voltage is set at minimum upon Switch-On before commencing stabilization - protects load equipment from damaging start up voltage surges.
<b>Environment:</b>	Temperature range -15 to 45 °C. Derate by 2% for each additional °C Up to max 60 °C . Suitable for indoor tropical use 95% RH (non-condensing). Maximum altitude 1000m. Derate by 2.5% for each additional 500m.

<b>Construction:</b>	Enclosures to NEMA 1 Style (IP20) - BS EN 60529.
<b>Paint Colour:</b>	RAL 7032 (Grey - Epoxy Powder Coating)
<b>EMC Conformance:</b>	Complies with BS EN 55022 and the relevant parts of the BS EN 61000 series of standards.
<b>CE Conformity:</b>	<b>CE Marked</b> - being fully compliant with European Union Directives 2004/108/EC (The EMC Directive) and 2006/95/EC (The Low Voltage Directive).
<b>Standard Warranty:</b>	Three Years / 36 Months from date of supply
<b>Standard Features:</b>	<b>SES-1L - 3L</b> Input Circuit Breaker Input / Output Terminals Bypass Control Switch Universal Output Socket  <b>SES-4L - 40L</b> Input Circuit Breaker Input / Output Terminals Output Voltmeter and Ammeter Bypass Control Switch Free Standing Enclosure on Castors
<b>Optional Accessories:</b>	Over / Low Voltage Protection, Voltmeter & Ammeter Manual Maintenance Bypass Switch Lightning Surge Arrestor Digital Power Metering - showing V,A,W,VA,AER,PF & kWh AquaStop Protective Coating - protection against damp and moisture ingress
<b>Optional Step Down Voltage Feature:</b>	Ideal for applications where the utility supply voltage is different from the load equipment's requirement - see <b>SES-LH SERIES</b> Step Up AC Voltage Stabilizers.
<b>Optional Isolation Transformer:</b>	Shielded isolation transformer providing extra protection between the utility and the load. Protects against common and transverse mode electrical noise - see <b>PCS-L SERIES</b> AC Power Conditioners.

Note: Optional Accessories added may affect dimensions - subject to confirmation.

**S25 PRODUCT SELECTION TABLE**

ALSO available in

Outdoor NEMA 3 Style / IP54  
Enclosures - **OSER SERIES**19" Rack Mount Enclosures -  
**SES-R SERIES** - up to 10 kVA

Model	Rating kVA	Max Rating (Amps)					Dimensions (mm) W x H x D	Weight (Kg)	Enclosure Type
		@ 100V	@ 110V	@ 115V	@ 120V	@ 127V			
SES-1L-S25	1	10	9	8.7	8.3	7.9	210 x 260 x 420	24	016A
SES-2L-S25	2	20	18	17.4	16.7	15.7	210 x 260 x 420	24.5	016A
SES-3L-S25	3	30	27	26	25	23	210 x 260 x 420	25	016A
SES-4L-S25	4	40	36	34	33	31	270 x 460 x 490	43	102
SES-5L-S25	5	50	46	44	42	39	270 x 460 x 490	44	102
SES-8L-S25	8	80	73	70	67	63	400 x 580 x 500	71	103
SES-10L-S25	10	100	91	87	83	78	400 x 580 x 500	73	103
SES-15L-S25	15	150	136	130	125	118	500 x 700 x 600	130	104A
SES-20L-S25	20	200	182	174	167	157	600 x 1170 x 700	220	105
SES-30L-S25	30	300	273	261	250	236	600 x 1170 x 700	260	105
SES-40L-S25	40	400	364	348	333	315	700 x 1400 x 800	400	106

**TECHNICAL SPECIFICATION**

<b>Technology:</b>	Servo Electronic - Variable Transformer controlled, series regulation transformer (buck-boast transformer with secondary wired in series with the load).
<b>Input Voltage Swing:</b>	±30% (or -32% +33% or -34% +36%) Single Phase, 2 Wire.
<b>Output Voltage:</b>	Pre-settable for any voltage between 100V, 110V, 115V & 120V. (Customer to specify), Single Phase, 2 Wire. 127V models also available.  The permissible input voltage swing is relative to the preset output voltage.
<b>Output Voltage Accuracy:</b>	± 1%, ± 3% or ± 5% - auto selection based on input voltage swing.
<b>Frequency:</b>	47 - 65Hz
<b>Response Time:</b>	<1.5ms
<b>Correction Time:</b>	A 10% supply variation will be corrected to within 2.5% in 0.6 seconds.
<b>Efficiency:</b>	98%
<b>Power Factor:</b>	Any lagging to 0.95 leading
<b>Surge Ratings:</b>	10 x max. current rating for 2 seconds 3 x max. current rating for 1 minute 2 x max. current rating for 2 minutes
<b>Surge Suppression:</b>	TVSS - Protects loads against high-energy Spikes and Transient Voltages.
<b>Total Harmonic Distortion:</b>	Less than 1%
<b>Soft-Switch On:</b>	Ensures the output voltage is set at minimum upon Switch-On before commencing stabilization - protects load equipment from damaging start up voltage surges.
<b>Environment:</b>	Temperature range -15 to 45 °C. Derate by 2% for each additional °C Up to max 60 °C. Suitable for indoor tropical use 95% RH (non-condensing). Maximum altitude 1000m. Derate by 2.5% for each additional 500m.

<b>Construction:</b>	Enclosures to NEMA 1 Style (IP20) - BS EN 60529.
<b>Paint Colour:</b>	RAL 7032 (Grey - Epoxy Powder Coating)
<b>EMC Conformance:</b>	Complies with BS EN 55022 and the relevant parts of the BS EN 61000 series of standards.
<b>CE Conformity:</b>	<b>CE Marked</b> - being fully compliant with European Union Directives 2004/108/EC (The EMC Directive) and 2006/95/EC (The Low Voltage Directive).
<b>Standard Warranty:</b>	Three Years / 36 Months from date of supply
<b>Standard Features:</b>	<b>SES-1L - 3L</b> Input Circuit Breaker Input / Output Terminals Bypass Control Switch Universal Output Socket  <b>SES-4L - 30L</b> Input Circuit Breaker Input / Output Terminals Output Voltmeter and Ammeter Bypass Control Switch Free Standing Enclosure on Castors
<b>Optional Accessories:</b>	Over / Low Voltage Protection, Voltmeter & Ammeter Manual Maintenance Bypass Switch Lightning Surge Arrestor Digital Power Metering - showing V,A,W,VA,AER,PF & kWh AquaStop Protective Coating - protection against damp and moisture ingress
<b>Optional Step Down Voltage Feature:</b>	Ideal for applications where the utility supply voltage is different from the load equipment's requirement - see <b>SES-LH SERIES</b> Step Up AC Voltage Stabilizers.
<b>Optional Isolation Transformer:</b>	Shielded isolation transformer providing extra protection between the utility and the load. Protects against common and transverse mode electrical noise - see <b>PCS-L SERIES</b> AC Power Conditioners.

Note: Optional Accessories added may affect dimensions - subject to confirmation.

**S30 PRODUCT SELECTION TABLE**

ALSO available in

Outdoor NEMA 3 Style / IP54  
Enclosures - **OSES SERIES**19" Rack Mount Enclosures -  
**SES-R SERIES** - up to 7.5 kVA

Model	Rating kVA	Max Rating (Amps)					Dimensions (mm) W x H x D	Weight (Kg)	Enclosure Type
		@ 100V	@ 110V	@ 115V	@ 120V	@ 127V			
SES-1L-S30	1	10	9	8.7	8.3	7.9	210 x 260 x 420	26	016A
SES-2L-S30	2	20	18	17.4	16.7	15.7	210 x 260 x 420	27	016A
SES-3L-S30	3	30	27	26	25	23	210 x 260 x 420	29	016A
SES-4L-S25	4	40	36	34	33	31	270 x 460 x 490	50	102
SES-5L-S30	5	50	46	44	42	39	270 x 460 x 490	52	102
SES-8L-S30	8	80	73	70	67	63	400 x 580 x 500	75	103
SES-10L-S30	10	100	91	87	83	78	400 x 580 x 500	78	103
SES-15L-S30	15	150	136	130	125	118	500 x 700 x 600	150	104A
SES-20L-S30	20	200	182	174	167	157	600 x 1170 x 700	240	105
SES-30L-S30	30	300	273	261	250	236	700 x 1400 x 800	380	106

**TECHNICAL SPECIFICATION**

<b>Technology:</b>	Servo Electronic - Variable Transformer controlled, series regulation transformer (buck-boast transformer with secondary wired in series with the load).
<b>Input Voltage Swing:</b>	±35% (or -37% +38% or -39% +41%) Single Phase, 2 Wire.
<b>Output Voltage:</b>	Presetable for any voltage between 100V, 110V, 115V & 120V. (Customer to specify), Single Phase, 2 Wire. 127V models also available.  The permissible input voltage swing is relative to the preset output voltage.
<b>Output Voltage Accuracy:</b>	± 1%, ± 3% or ± 5 % - auto selection based on input voltage swing.
<b>Frequency:</b>	47 - 65Hz
<b>Response Time:</b>	<1.5ms
<b>Correction Time:</b>	A 10% supply variation will be corrected to within 2.5% in 0.6 seconds.
<b>Efficiency:</b>	98%
<b>Power Factor:</b>	Any lagging to 0.95 leading
<b>Surge Ratings:</b>	10 x max. current rating for 2 seconds 3 x max. current rating for 1 minute 2 x max. current rating for 2 minutes
<b>Surge Suppression:</b>	TVSS - Protects loads against high-energy Spikes and Transient Voltages.
<b>Total Harmonic Distortion:</b>	Less than 1%
<b>Soft-Switch On:</b>	Ensures the output voltage is set at minimum upon Switch-On before commencing stabilization - protects load equipment from damaging start up voltage surges.
<b>Environment:</b>	Temperature range -15 to 45 °C. Derate by 2% for each additional °C Up to max 60 °C . Suitable for indoor tropical use 95% RH (non-condensing). Maximum altitude 1000m. Derate by 2.5% for each additional 500m.

<b>Construction:</b>	Enclosures to NEMA 1 Style (IP20) - BS EN 60529.
<b>Paint Colour:</b>	RAL 7032 (Grey - Epoxy Powder Coating)
<b>EMC Conformance:</b>	Complies with BS EN 55022 and the relevant parts of the BS EN 61000 series of standards.
<b>CE Conformity:</b>	<b>CE Marked</b> - being fully compliant with European Union Directives 2004/108/EC (The EMC Directive) and 2006/95/EC (The Low Voltage Directive).
<b>Standard Warranty:</b>	Three Years / 36 Months from date of supply
<b>Standard Features:</b>	<b>016A Style Enclosures</b> Input Circuit Breaker Input / Output Terminals Bypass Control Switch Universal Output Socket  <b>102 to 106 Style Enclosures</b> Input Circuit Breaker Input / Output Terminals Output Voltmeter and Ammeter Bypass Control Switch Free Standing Enclosure on Castors
<b>Optional Accessories:</b>	Over / Low Voltage Protection, Voltmeter & Ammeter Manual Maintenance Bypass Switch Lightning Surge Arrestor Digital Power Metering - showing V,A,W,VA,AER,PF & kWh AquaStop Protective Coating - protection against damp and moisture ingress
<b>Optional Step Down Voltage Feature:</b>	Ideal for applications where the utility supply voltage is different from the load equipment's requirement - see <b>SES-LH SERIES</b> Step Up AC Voltage Stabilizers.
<b>Optional Isolation Transformer:</b>	Shielded isolation transformer providing extra protection between the utility and the load. Protects against common and transverse mode electrical noise - see <b>PCS-L SERIES</b> AC Power Conditioners.

Note: Optional Accessories added may affect dimensions - subject to confirmation.

**S35 PRODUCT SELECTION TABLE**ALSO available in  
Outdoor NEMA 3 Style / IP54  
Enclosures - **0SES SERIES**19" Rack Mount Enclosures -  
**SES-R SERIES** - up to 7.5 kVA

Model	Rating kVA	Max Rating (Amps)					Dimensions & Weights
		@ 100V	@ 110V	@ 115V	@ 120V	@ 127V	
SES-1L-S35	1	10	9	8.7	8.3	7.9	Dimensions & Weights available on Request - according to the <b>S*</b> Swing Model Variant required.
SES-2L-S35	2	20	18	17.4	16.7	15.7	
SES-3L-S35	3	30	27	26	25	23	
SES-4L-S35	4	40	36	34	33	31	
SES-5L-S35	5	50	46	44	42	39	
SES-8L-S35	8	80	73	70	67	63	
SES-10L-S35	10	100	91	87	83	78	
SES-15L-S35	15	150	136	130	125	118	
SES-20L-S35	20	200	182	174	167	157	

**TECHNICAL SPECIFICATION**

<b>Technology:</b>	Servo Electronic - Variable Transformer controlled, series regulation transformer (buck-boost transformer with secondary wired in series with the load).
<b>Input Voltage Swing:</b>	±40% (or -42% +43% or -44% +46%) Single Phase, 2 Wire.
<b>Output Voltage:</b>	Pre-settable for any voltage between 100V, 110V, 115V & 120V. (Customer to specify), Single Phase, 2 Wire. 127V models also available.  The permissible input voltage swing is relative to the preset output voltage.
<b>Output Voltage Accuracy:</b>	± 1%, ± 3% or ± 5 % - auto selection based on input voltage swing.
<b>Frequency:</b>	47 - 65Hz
<b>Response Time:</b>	<1.5ms
<b>Correction Time:</b>	A 10% supply variation will be corrected to within 2.5% in 0.6 seconds.
<b>Efficiency:</b>	98%
<b>Power Factor:</b>	Any lagging to 0.95 leading
<b>Surge Ratings:</b>	10 x max. current rating for 2 seconds 3 x max. current rating for 1 minute 2 x max. current rating for 2 minutes
<b>Surge Suppression:</b>	TVSS - Protects loads against high-energy Spikes and Transient Voltages.
<b>Total Harmonic Distortion:</b>	Less than 1%
<b>Soft-Switch On:</b>	Ensures the output voltage is set at minimum upon Switch-On before commencing stabilization - protects load equipment from damaging start up voltage surges.
<b>Environment:</b>	Temperature range -15 to 45 °C. Derate by 2% for each additional °C Up to max 60 °C . Suitable for indoor tropical use 95% RH (non-condensing). Maximum altitude 1000m. Derate by 2.5% for each additional 500m.

<b>Construction:</b>	Enclosures to NEMA 1 Style (IP20) - BS EN 60529.
<b>Paint Colour:</b>	RAL 7032 (Grey - Epoxy Powder Coating)
<b>EMC Conformance:</b>	Complies with BS EN 55022 and the relevant parts of the BS EN 61000 series of standards.
<b>CE Conformity:</b>	<b>CE Marked</b> - being fully compliant with European Union Directives 2004/108/EC (The EMC Directive) and 2006/95/EC (The Low Voltage Directive).
<b>Standard Warranty:</b>	Three Years / 36 Months from date of supply
<b>Standard Features:</b>	<b>016A Style Enclosures</b> Input Circuit Breaker Input / Output Terminals Bypass Control Switch Universal Output Socket  <b>102 to 106 Style Enclosures</b> Input Circuit Breaker Input / Output Terminals Output Voltmeter and Ammeter Bypass Control Switch Free Standing Enclosure on Castors
<b>Optional Accessories:</b>	Over / Low Voltage Protection, Voltmeter & Ammeter Manual Maintenance Bypass Switch Lightning Surge Arrestor Digital Power Metering - showing V,A,W,VA,AER,PF & kWh AquaStop Protective Coating - protection against damp and moisture ingress
<b>Optional Step Down Voltage Feature:</b>	Ideal for applications where the utility supply voltage is different from the load equipment's requirement - see <b>SES-LH SERIES</b> Step Up AC Voltage Stabilizers.
<b>Optional Isolation Transformer:</b>	Shielded isolation transformer providing extra protection between the utility and the load. Protects against common and transverse mode electrical noise - see <b>PCS-L SERIES</b> AC Power Conditioners.

Note: Optional Accessories added may affect dimensions - subject to confirmation.

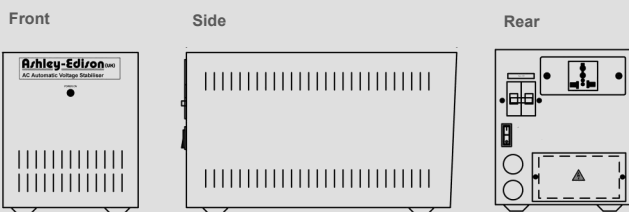
**S40 PRODUCT SELECTION TABLE**ALSO available in  
Outdoor NEMA 3 Style / IP54  
Enclosures - **OSES SERIES**

Model	Rating kVA	Max Rating (Amps)					Dimensions & Weights
		@ 100V	@ 110V	@ 115V	@ 120V	@ 127V	
SES-1L-S40	1	10	9	8.7	8.3	7.9	Dimensions & Weights available on Request - according to the <b>S*</b> Swing Model Variant required.
SES-2L-S40	2	20	18	17.4	16.7	15.7	
SES-3L-S40	3	30	27	26	25	23	
SES-4L-S40	4	40	36	34	33	31	
SES-5L-S40	5	50	46	44	42	39	
SES-8L-S40	8	80	73	70	67	63	
SES-10L-S40	10	100	91	87	83	78	
SES-15L-S40	15	150	136	130	125	118	
SES-20L-S40	20	200	182	174	167	157	



## ENCLOSURE TYPES

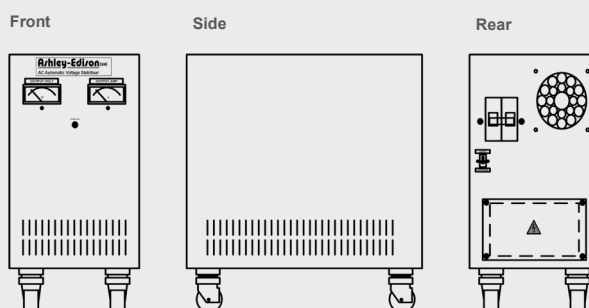
### 016A



**Physical Size:** 8.3"(W) x 10.3"(H) x 16.6"(D) inches  
210(W) x 260(H) x 420(D) mm

**Features:** Input Circuit Breaker, Input / Output Terminals, Bypass Control Switch & Universal Output Socket

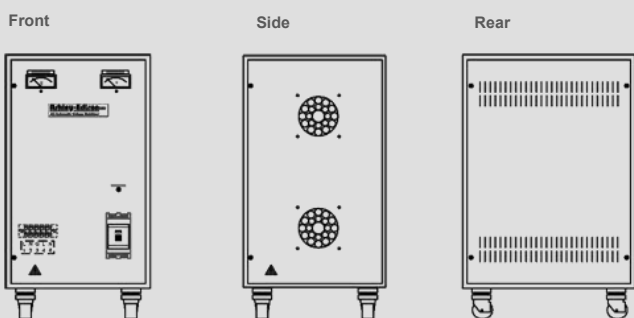
### 102



**Physical Size:** 10.7"(W) x 18.2"(H) x 19.3"(D) inches  
270(W) x 460(H) x 490(D) mm

**Features:** Input Circuit Breaker, Input / Output Terminals, Output Voltmeter and Ammeter, Bypass Control Switch & Free Standing Enclosure on Castors

### 103 -106



**Features:** Input Circuit Breaker, Input / Output Terminals, Output Voltmeter and Ammeter, Bypass Control Switch & Free Standing Enclosure on Castors

Enclosure	Physical Size:
<b>103</b>	15.8"(W) x 22.9"(H) x 19.7"(D) inches 400(W) x 580(H) x 500(D) mm
<b>104A</b>	19.7"(W) x 27.6"(H) x 23.7"(D) inches 500(W) x 700(H) x 600(D) mm
<b>104</b>	19.7"(W) x 35.5"(H) x 23.7"(D) inches 500(W) x 900(H) x 600(D) mm
<b>105</b>	23.7"(W) x 46.1"(H) x 27.6"(D) inches 600(W) x 1170(H) x 700(D) mm
<b>106</b>	27.6"(W) x 55.2"(H) x 31.5"(D) inches 700(W) x 1400(H) x 800(D) mm

## TYPICAL APPLICATIONS

- Computers & Network Systems
- Medical Equipment
- Electronics Equipment
- Testing Equipment
- Laboratory Equipment
- POS Terminals
- Process Control Systems
- TV/Radio Broadcasting Stations
- Audio/Video Systems
- Security Systems
- Photo Processing Systems
- Marine Navigation Systems

### WANT TO KNOW MORE . . . . .

Want to learn more about our Servo Electronic AC Voltage Regulators / Stabilisers and Power Conditioners?

Please ask for a copy of our . . . .  
**Servo Electronic Overview Brochure**

