

**SES H/HL-R SERIES** - SINGLE PHASE - 3 to 15 kVA

**COST EFFICIENT VOLTAGE STABILISATION**  
specifically designed for ease of installation within a 19" rack environment.

**FEATURES**

- **Automatic Voltage Regulation**  
Step less automated voltage regulation - ideal for 95% of all applications.
- **Wide Range of Power Ratings**  
Single Phase 3 to 15 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  $\pm 1.1\%$
- **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 STABILISERS & REGULATORS**  
**RACK MOUNTABLE AC SINGLE PHASE - 3 TO 15 kVA**

# SES-R

220V - 230V - 240V - 50/60Hz

**H & HL - SINGLE PHASE****ENSURING A STABLE AC MAINS VOLTAGE**

AC mains 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 mains voltage is stable and clean can often result in costly equipment repairs and unplanned down-time.

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

- **Voltage Stability & Protection**  
Suitable for all electrical and electronic equipment, Ashley-Edison's SES AC Voltage Stabilisers continuously monitor the incoming supply. Should the incoming voltage rise or drop, the Stabilisers 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 Stabilisers have repeatedly proven their durability and dependability in some of the world's harshest and most demanding power environments.
- **Energy Efficiency**  
Characterised by high efficiency, SES Stabilisers are completely unaffected by power factor and load variations. Able to withstand high instantaneous overloads, SES Stabilisers do not generate any magnetic interference - making them ideal for being located near to sensitive equipment. Through delivering a regulated, stable and optimised voltage to the equipment they support, SES Stabilisers 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 Stabilisers 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
- **Input Circuit Breaker**  
Standard protection on all models
- **Bypass Control Switch**  
Manual Electronic Controls Bypass Facility
- **Soft - Switch On**  
Load protection on Start Up
- **Over / Low Voltage Protection**  
Ability to automatically shutdown the Voltage Stabiliser in the event of the input supply voltage going outside the input voltage window.
- **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:**

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

## VOLTAGE CHOICES AVAILABLE

### 2 WIRE SOLUTIONS

SINGLE PHASE WITH NEUTRAL (+ GROUND)

#### H/HL SERIES

3 to 15 kVA (H)  
3 to 5 kVA (HL)

High Voltage Models:

220V, 230V or 240V.

Other voltages available on individual request / quotation.

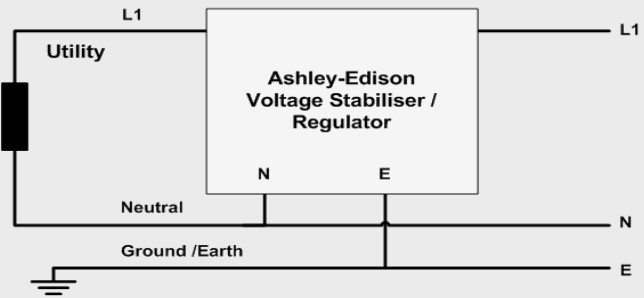
#### L/LH SERIES

3 to 10 kVA  
3 to 5 kVA (LH)

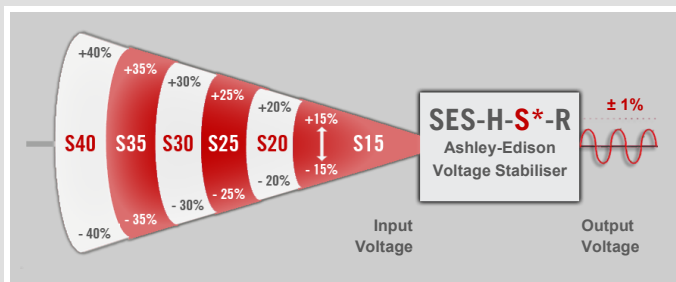
Low Voltage Models:

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

Other voltages available on individual request / quotation.



## H & HL SERIES INPUT VOLTAGE WINDOW OPTIONS



In situations where there is a reasonably good mains 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.

## H & HL SERIES - SES-H/HL-S\*-R 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
		H - 3 to 15 kVA HL - 3 to 5 kVA	H - 3 to 15 kVA HL - 3 to 5 kVA	H - 3 to 10 kVA HL - 3 to 5 kVA	H - 3 to 7.5 kVA	H - 3 to 7.5 kVA	H - 3 to 5 kVA
220V	$\pm 1\%$	187v to 253v ( $\pm 15\%$ )	176v to 264v ( $\pm 20\%$ )	165v to 275v ( $\pm 25\%$ )	154v to 286v ( $\pm 30\%$ )	143v to 297v ( $\pm 35\%$ )	132v to 308v ( $\pm 40\%$ )
	$\pm 3\%$	183v to 260v (-17% / +18%)	172v to 271v (-22% / +23%)	161v to 282v (-27% / +28%)	150v to 293v (-32% / +33%)	139v to 304v (-37% / +38%)	128v to 315v (-42% / +43%)
	$\pm 5\%$	178v to 266v (-19% / +21%)	167v to 277v (-24% / +26%)	156v to 288v (-29% / +31%)	145v to 299v (-34% / +36%)	134v to 310v (-39% / +41%)	123v to 321v (-44% / +46%)
230V	$\pm 1\%$	196v to 264v ( $\pm 15\%$ )	184v to 276v ( $\pm 20\%$ )	173v to 287v ( $\pm 25\%$ )	161v to 299v ( $\pm 30\%$ )	150v to 310v ( $\pm 35\%$ )	138v to 322v ( $\pm 40\%$ )
	$\pm 3\%$	191v to 271v (-17% / +18%)	179v to 283v (-22% / +23%)	168v to 294v (-27% / +28%)	156v to 306v (-32% / +33%)	145v to 317v (-37% / +38%)	133v to 329v (-42% / +43%)
	$\pm 5\%$	186v to 278v (-19% / +21%)	175v to 290v (-24% / +26%)	163v to 302v (-29% / +31%)	152v to 313v (-34% / +36%)	140v to 324v (-39% / +41%)	129v to 336v (-44% / +46%)
240V	$\pm 1\%$	204v to 276v ( $\pm 15\%$ )	192v to 288v ( $\pm 20\%$ )	180v to 300v ( $\pm 25\%$ )	168v to 312v ( $\pm 30\%$ )	156v to 324v ( $\pm 35\%$ )	144v to 336v ( $\pm 40\%$ )
	$\pm 3\%$	199v to 283v (-17% / +18%)	187v to 295v (-22% / +23%)	175v to 307v (-27% / +28%)	163v to 319v (-32% / +33%)	151v to 331v (-37% / +38%)	139v to 343v (-42% / +43%)
	$\pm 5\%$	194v to 290v (-19% / +21%)	182v to 302v (-24% / +26%)	170v to 314v (-29% / +31%)	158v to 326v (-34% / +36%)	146v to 338v (-39% / +41%)	134v to 350v (-44% / +46%)

## TYPICAL APPLICATIONS

- Computers & Network Systems
- Medical Equipment
- Electronic Equipment
- Testing Equipment
- Communication Systems
- TV/Radio Broadcasting Stations
- Security Systems
- Audio/Video Systems



**H SERIES TECHNICAL SPECIFICATION**

220V - 230V - 240V - 50/60Hz

<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>	<b>Model / Accuracy</b>	<b>± 1%</b>	<b>± 3%</b>	<b>± 5%</b>
	<b>S15</b>	± 15%	-17% +18%	-19% +21%
	<b>S20</b>	± 20%	-22% +23%	-24% +26%
	<b>S25</b>	± 25%	-27% +28%	-29% +31%
	<b>S30</b>	± 30%	-32% +33%	-34% +36%
	<b>S35</b>	± 35%	-32% +33%	-34% +36%
	<b>S40</b>	± 40%	-42% +43%	-44% +46%
<b>Output Voltage:</b>	Presettable for any voltage between 220V, 230V, 240V, (Customer to specify), Single Phase, 2 Wire. 254V & 277V models available to special order.  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>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 IP20 (NEMA 1 Style) - 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>	Input Circuit Breaker Input / Output Terminals Bypass Control Switch Output Voltmeter Over / Low Voltage Protection Volt Free Contacts - (Normally Open / Closed)
<b>Optional Accessories:</b>	Lightning Surge Arrestor AquaStop Protective Coating - protection against damp and moisture ingress

Note: Special voltage configurations available to individual order.

**H SERIES PRODUCT SELECTION TABLE**

Rack Mount Enclosure  
Height = 5.4U

Model	Rating kVA	Max Rating (Amps)			Dimensions (mm) W x H x D	Weight (Kg)
		@ 220V	@ 230V	@ 240V		
<b>S15 - Single Phase Input Swing ± 15%</b>						
SES-3H-S15-R	3	13.6	13	12.5	480 x 240 x 400	28
SES-5H-S15-R	5	23	22	21	480 x 240 x 400	30
SES-10H-S15-R	10	45	44	42	480 x 240 x 400	36
SES-15H-S15-R	15	68	65	63	480 x 240 x 400	53
<b>S20 - Single Phase Input Swing ± 20%</b>						
SES-3H-S20-R	3	13.6	13	12.5	480 x 240 x 400	30
SES-5H-S20-R	5	23	22	21	480 x 240 x 400	36
SES-10H-S20-R	10	45	44	42	480 x 240 x 400	45
SES-15H-S20-R	15	68	65	63	480 x 240 x 400	60
<b>S25 - Single Phase Input Swing ± 25%</b>						
SES-3H-S25-R	3	13.6	13	12.5	480 x 240 x 400	34
SES-5H-S25-R	5	23	22	21	480 x 240 x 400	36
SES-10H-S20-R	10	45	44	42	480 x 240 x 400	48

Model	Rating kVA	Max Rating (Amps)			Dimensions (mm) W x H x D	Weight (Kg)
		@ 220V	@ 230V	@ 240V		
<b>S30 - Single Phase Input Swing ± 30%</b>						
SES-3H-S30-R	3	13.6	13	12.5	480 x 240 x 400	37
SES-5H-S30-R	5	23	22	21	480 x 240 x 400	40
SES-7.5H-S30-R	10	36	35	33	480 x 240 x 400	48
<b>S35 - Single Phase Input Swing ± 35%</b>						
SES-3H-S35-R	3	13.6	13	12.5	480 x 240 x 400	41
SES-5H-S35-R	5	23	22	21	480 x 240 x 400	48
SES-7.5H-S30-R	10	36	35	33	480 x 240 x 400	50
<b>S40 - Single Phase Input Swing ± 40%</b>						
SES-3H-S40-R	3	13.6	13	12.5	480 x 240 x 400	44
SES-5H-S40-R	5	23	22	21	480 x 240 x 400	50



## STEP-DOWN AC VOLTAGE STABILISERS

220V - 230V - 240V - 50/60Hz

**HL SERIES TECHNICAL SPECIFICATION**

Ideal for applications where the utility supply voltage is different from the load equipment's requirement.

<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:</b>	220V, 230V or 240V AC (Customer to specify), Single Phase, 2 Wire.																
<b>Input Voltage Swing:</b>	<table border="1"> <thead> <tr> <th>Model / Accuracy</th> <th>± 1%</th> <th>± 3%</th> <th>± 5%</th> </tr> </thead> <tbody> <tr> <td><b>S15</b></td> <td>± 15%</td> <td>-17% +18%</td> <td>-19% +21%</td> </tr> <tr> <td><b>S20</b></td> <td>± 20%</td> <td>-22% +23%</td> <td>-24% +26%</td> </tr> <tr> <td><b>S25</b></td> <td>± 25%</td> <td>-27% +28%</td> <td>-29% +31%</td> </tr> </tbody> </table>	Model / Accuracy	± 1%	± 3%	± 5%	<b>S15</b>	± 15%	-17% +18%	-19% +21%	<b>S20</b>	± 20%	-22% +23%	-24% +26%	<b>S25</b>	± 25%	-27% +28%	-29% +31%
Model / Accuracy	± 1%	± 3%	± 5%														
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<b>S20</b>	± 20%	-22% +23%	-24% +26%														
<b>S25</b>	± 25%	-27% +28%	-29% +31%														
<b>Output Voltage:</b>	Pre-settable for any voltage between 100V, 110V, 115V & 120V (Customer to specify), Single Phase, 2 Wire. 127V models available to special order.																
<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>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 IP20 (NEMA 1 Style) - 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>	Input Circuit Breaker Input / Output Terminals Bypass Control Switch Output Voltmeter Over / Low Voltage Protection Volt Free Contacts - (Normally Open / Closed)
<b>Optional Accessories:</b>	Lightning Surge Arrestor AquaStop Protective Coating - protection against damp and moisture ingress

Note: Special voltage configurations available to individual order.

**HL SERIES PRODUCT SELECTION TABLE**Rack Mount Enclosure  
Height = 5.4U

Model	Rating kVA	Max Rating (Amps)					Dimensions (mm) W x H x D	Weight (Kg)
		@ 100V	@ 110V	@ 115V	@120V	@127V		
<b>S15 - Single Phase Input Swing ± 15%</b>								
SES-3HL-S15-R	3	30	27	26	25	23	480 x 240 x 400	46
SES-5HL-S15-R	5	50	46	43	42	39	480 x 240 x 400	56
<b>S20 - Single Phase Input Swing ± 20%</b>								
SES-3HL-S20-R	3	30	27	26	25	23	480 x 240 x 400	48
SES-5HL-S20-R	5	50	46	43	42	39	480 x 240 x 400	62
<b>S25 - Single Phase Input Swing ± 25%</b>								
SES-3HL-S25-R	3	30	27	26	25	23	480 x 240 x 400	52
SES-5HL-S25-R	5	50	46	43	42	39	480 x 240 x 400	62

