MVRI-H-3P-S* SERIES - 250 to 2000 kVA - THREE PHASE - 4 WIRE

sinalda.com mains voltage control

RUGGED INDUSTRIAL GRADE protection against the vagaries of voltage fluctuations on the input utility supply.

FEATURES

- **Automatic Voltage Regulation**
  Step less automated voltage regulation - ideal for 95% of all applications.
- **Wide Range of Power Ratings**
  Three Phase 250 to 2000 KVA
- **Broad Input Voltage Swing Ranges**
  Input Swing - ±10% (S10), ±15% (S15), ±20% (S20), ±25% (S25), ±30% (S30), ±35% (S35) & ±40% (S40) - *Customer to specify.*
- **High Efficiency**
  Better than 98%.
- **Precise Output Voltage Regulation**
  Output Voltage Accuracy ± 1.5%
- **Transient Voltage Surge Suppression** TVSS - Protects loads against harmful high-energy surges, transients and spikes.

BRUSHLESS MAGNETIC INDUCTION DESIGN

AC VOLTAGE STABILISERS & REGULATORS

AC THREE PHASE - 250 TO 2000 kVA

380/220V - 400/230V - 415/240V - 50 or 60Hz

AIR COOLED

MVRI

4 WIRE - WITH NEUTRAL

H - THREE PHASE

MAXIMUM RELIABILITY FOR THE TOUGHEST OF APPLICATIONS

Designed for maximum reliability, making them ideal the toughest of applications, MVRI Brushless AC Automatic Voltage Stabilisers & Regulators enhance power quality, providing industrial - grade voltage regulation and power protection.

Typical Applications include -

- **Office Complexes & Buildings**
  Building or whole floor voltage protection of computer and communication systems, elevators and lifts, lighting and environmental cooling/heating systems.
- **Manufacturing Plants & Production Processes**
  Building or whole production line protection of industrial automation control, CNC and other heavy duty manufacturing load equipment. Ideal for applications in the Pharmaceutical, Petrochemical, Food Processing, Mining and Paper Mill industries.
- **Broadcasting**
  Protection for TV, Radio and Communication transmitter sites and studios.
- **Medical Establishments & Equipment**
  Building or floor wide protection of critical medical equipment and systems, including X-Ray, CAT Scan and MRI machines.

Where backup power is deemed unnecessary, or is derived from other sources, MVRI AC Voltage Stabilisers and Regulators deliver, for industrial and commercial buildings and their applications, a practical, efficient and cost effective solution to the power quality issues of Voltage Regulation and Power Protection.

- **Independent Phase Balancing & Control**
  Independent phase voltage sensing and control to ensure the individual phase voltages remain stable - regardless of load unbalance .
- **Inbuilt High Overload Capability**
  Ideal for loads with an inherent initial high current draw on start up.
- **Brushless Design**
  Virtually a maintenance free solution utilising no brushes - making it ideal for remote and unmanned locations.
- **Over / Low Voltage Alarm**
  Audible alarm in the event of the input supply voltage going outside the input voltage window.
- **Phase Failure & Reversal Alarm**
  Audible alarm in the event of phase failure or reversal.
- **Voltage & Current Metering**
  Analogue metering of output voltage and loading with phase selector switches.
- **Remote Operational Status Monitoring**
  No Volt Contacts delivering basic operational system status information for use by remote monitoring / building management systems.
- **Optional Accessories**
  Input & Output Circuit Breakers, Over / Low Voltage Protection, Phase Failure Protection, Manual Maintenance Bypass Switch & Digital Power Metering. (with RS-485 interface option).
- **Compliance with International Standards**
  Designed, manufactured and supplied to comply with leading international standards.

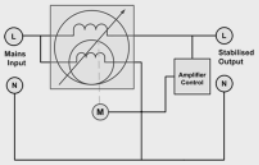
MVRI-H-3P-S* SERIES - 250 to 2000 kVA - THREE PHASE - 4 WIRE

ADVANCED ROBUST BRUSHLESS DESIGN TOPOLOGY

MVRI Air Cooled Voltage Stabilisers utilize Magnetic Induction Brushless Technology to deliver highly reliable and virtually maintenance free voltage stabilisation and protection.

As standard, all MVRI Voltage Stabilisers offer independent phase balancing and control ensuring that each phase voltage remains stable, irrespective of load unbalance – even for situations where a 100% load unbalance may exist.

As a Magnetic Induction based solution, MVRI stabilisers utilise a simple, yet highly reliable, rotor and stator design principle to increase or reduce the magnitude of the voltage in a series transformer winding, thereby delivering and maintaining a constant output voltage. The arrangement is similar to a motor, except that the rotor does not rotate continuously. Its maximum rotation is only 130 degrees. The magnetic coupling between the rotor (the shunt winding) and stator (series winding) will cause the magnitude of the voltage in the series winding to increase or decrease, depending on the angle or position of the rotor to the stator. For example, when the input voltage drops, the rotor will rotate clockwise to such an angle to make up for the drop in voltage, rotating anti-clockwise to correct for a high voltage.



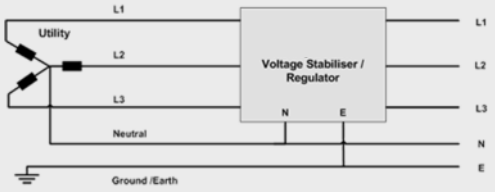
VOLTAGE CHOICES AVAILABLE - H SERIES

4 WIRE SOLUTIONS
THREE PHASE WITH NEUTRAL (4 WIRE SYSTEMS)

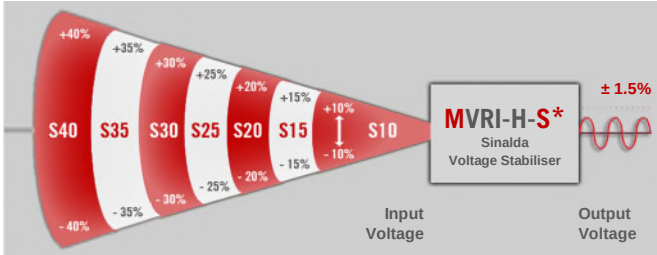
H SERIES
250 to 2000 kVA

High Voltage Models:
380/220V, 400/230V or 415/240V.

Other voltages available on individual request / quotation.



INPUT VOLTAGE WINDOW OPTIONS - H SERIES- THREE PHASE - 4 WIRE



In situations where there is a reasonably good mains supply, a Stabiliser offering an input variation swing of ±10% (S10 Models) will usually be more than acceptable, but in more remote locations, or countries where the national supply infrastructure is less developed, variations of ±15% 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 SERIES - MVRI-H-3P-S* Input Voltage Window Options & Output Voltage Accuracy

Nominal Three Phase Voltage	Output Voltage Accuracy ± % of Nominal	INPUT VOLTAGE SWINGS / SWING MODEL NO VARIANTS													
		S10		S15		S20		S25		S30		S35		S40	
		250 to 2000kVA		250 to 2000kVA		250 to 2000kVA		250 to 2000kVA		250 to 1000kVA		250 to 1000kVA		250 to 1000kVA	
	Readings	L-L	L-N	L-L	L-N	L-L	L-N	L-L	L-N	L-L	L-N	L-L	L-N	L-L	L-N
380V L-N: 220V	± 1.5%	342 to 418V	198 to 242V	323 to 437V	187 to 253V	304 to 456V	176 to 264V	285 to 475V	165 to 275V	266 to 494V	154 to 286V	247 to 513V	143 to 297V	228 to 532V	132 to 308V
		(± 10%)		(± 15%)		(± 20%)		(± 25%)		(± 30%)		(± 35%)		(± 40%)	
400V L-N: 230V	± 1.5%	360 to 440V	207 to 253V	340 to 460V	196 to 265V	320 to 480V	184 to 276V	300 to 500V	173 to 288V	280 to 520V	161 to 299V	260 to 540V	150 to 311V	240 to 560V	138 to 322V
		(± 10%)		(± 15%)		(± 20%)		(± 25%)		(± 30%)		(± 35%)		(± 40%)	
415V L-N: 240V	± 1.5%	374 to 457V	216 to 264V	353 to 477V	204 to 276V	332 to 498V	192 to 288V	311 to 519V	180 to 300V	291 to 540V	168 to 312V	270 to 560V	156 to 324V	249 to 581V	144 to 336V
		(± 10%)		(± 15%)		(± 20%)		(± 25%)		(± 30%)		(± 35%)		(± 40%)	

MVRI-H-3P-S* SERIES - 250 to 2000 kVA - THREE PHASE - 4 WIRE

TECHNICAL SPECIFICATION

Technology:	**Magnetic Induction Design** - Brushless Virtually Maintenance Free
Input Voltage Swing Variant Options Available: (S*)	**Model / Accuracy** / **± 1.5%** / **Max Rating** **S10** ± 10% 2000 kVA **S15** ± 15% 2000 kVA **S20** ± 20% 2000 kVA **S25** ± 25% 2000 kVA **S30** ± 30% 1000 kVA **S35** ± 35% 1000 kVA **S40** ± 40% 1000 kVA **Three Phase, 4 Wire (3 Phase + Neutral).** Other swing options available to special quotation / order.
Output Voltage:	Presettable for any voltage between 380/220V, 400/230V, or 415/240V - *Customer to Specify,* Three Phase, 4 Wire. (3 Phase + Neutral) The permissible input voltage swing is relative to the preset output voltage.
Output Voltage Accuracy:	**± 1.5%**
Frequency:	47 - 65Hz
Response Time:	<1.5ms
Correction Time:	A 10% supply variation will be corrected to within 2.5% in typically 0.6 to 1 second - *dependent on the selected permissible input voltage swing and system rating.*
Efficiency:	≥ 98%
Power Factor:	The Power Factor has no effect on performance providing the stabiliser is being used within its rated capacity.
Surge Ratings:	10 x max. current rating for 2 seconds 3 x max. current rating for 1 minute 2 x max. current rating for 10 minutes 1.5 x max. current rating for 30 minutes

Surge Suppression:	**TVSS** - Protects loads against high-energy Spikes and Transient Voltages.
Total Harmonic Distortion:	Less than 1%
Independent Phase Control:	Maintains each phase voltage stable irrespective of load unbalance, even up to 100% load unbalance.
Environment:	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.
Construction:	Enclosures to IP20 (NEMA 1 Style) - BS EN 60529.
Paint Colour:	RAL 7032 (Grey - Epoxy Powder Coating)
EMC Conformance:	Complies with BS EN 55022 and the relevant parts of the BS EN 61000 series of standards.
UKCA & CE Conformity:	**UKCA & CE Marked** - being fully compliant with European Union Directives 2004/108/EC (The EMC Directive) and 2006/95/EC (The Low Voltage Directive) and associated UK regulations.
Standard Warranty:	Two Years / 24 Months from date of supply
Standard Features:	Loss of Phase & Phase Reversal Alarms Over Temperature Alarm Over Voltage & Low Voltage Alarms Voltmeter / Selector Switch Ammeter / Selector Switch No-Volt Free Contacts (N.C & N.O)
Optional Accessories:	Isolation Transformer, Frequency Meter, Lightning Surge Arrestors, Manual Maintenance Bypass Switch, Input & Output Breakers, Over/Low Voltage Protection, Phase Failure Protection, IP21 Drip Proof Cowl (336 Enclosures Only), IP54 Ingress Protection Enclosure - OMVRI SERIES, Digital Power Metering (with RS-485 Option) - showing V,A,W,VA,AER, PF & kWH and AquaStop Protective Coating - protection against damp and moisture ingress

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

H SERIES PRODUCT SELECTION TABLE

MODEL	kVA	Max Rating @ (Amps per Phase)			Dimensions & Weights
		@ 380V	@ 400V	@ 415V	
MVRI-250H-3P-S*	250	380	361	348	*Dimensions & Weights available on Request - according to the S* Swing Model Variant required.*
MVRI-300H-3P-S*	300	456	433	417	
MVRI-350H-3P-S*	350	532	505	487	
MVRI-400H-3P-S*	400	608	577	556	
MVRI-450H-3P-S*	450	684	649	626	
MVRI-500H-3P-S*	500	760	722	695	
MVRI-600H-3P-S*	600	911	866	835	
MVRI-650H-3P-S*	650	988	938	904	
MVRI-700H-3P-S*	700	1064	1010	974	
MVRI-750H-3P-S*	750	1139	1082	1043	
MVRI-800H-3P-S*	800	1216	1155	1113	
MVRI-900H-3P-S*	900	1367	1299	1252	
MVRI-1000H-3P-S*	1000	1519	1443	1391	
MVRI-1200H-3P-S*	1200	1823	1732	1669	
MVRI-1500H-3P-S*	1500	2279	2165	2087	
MVRI-1600H-3P-S*	1600	2403	2308	2225	
MVRI-1800H-3P-S*	1800	2734	2597	2503	
MVRI-2000H-3P-S*	3037	3037	2885	2781	

QUALITY 2 WITH YEARS STANDARD WARRANTY GUARANTEED

Note: Alternative voltage options available to order / individual request.

MVRI-H-3P-S* SERIES - 250 to 2000 kVA - THREE PHASE - 4 WIRE

STANDARD IP20 ENCLOSURE STYLES

Front

Front (*Inside with door open*)

QUALITY 2 WITH YEARS STANDARD WARRANTY GUARANTEED

IP 54 OPTION

TYPICAL APPLICATIONS

- Industrial Buildings
- Commercial Buildings & Offices
- Healthcare & Life Sciences
- Communication & Broadcasting
- Manufacture & Production
- Oil & Gas Exploration

AVAILABILTY

We offer probably the best availability on AC Voltage Stabiliser & Power Conditioning solutions.

Many of our most popular ratings are readily available from stock at the factory or from one of our strategically located Service and Distribution Hubs.

Where a solution is not readily available, due to our considerable investment in component inventory and fine-tuned accredited build processes, we are able to ensure very short lead times on deliveries – *even for the largest of models!*

CUSTOM BUILT SOLUTIONS

Sinalda UK, with a strong and wide manufacturing base, is able to meet the requirements of customers from our own in-house professional resources.

Where bespoke / custom built solutions are required we are able to call upon our extensive portfolio of proven standard designs and tailor offerings to accommodate, without breaking the bank, most individual specific requirements.

MVRI H SERIES

MVRI SERIES

Magnetic Induction Industrial Voltage Stabilisers / Regulators are available from -