



With Independent Phase 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 3000 KVA
- **Broad Input Voltage Swing Ranges**
Input Swing - $\pm 10\%$ (S10), $\pm 15\%$ (S15), $\pm 20\%$ (S20), $\pm 25\%$ (S25), $\pm 30\%$ (S30), $\pm 35\%$ (S35) & $\pm 40\%$ (S40) to specify.
- **High Efficiency**
Better than 97% for low running costs.
- **Precise Output Voltage Regulation**
Output Voltage Accuracy $\pm 1.5\%$
- **Transient Voltage Surge Suppression TVSS** - Protects loads against harmful high-energy surges, transients and spikes.
- **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 MAGNETIC INDUCTION DESIGN AC VOLTAGE STABILISERS & REGULATORS AC THREE PHASE - 250 TO 3000 kVA

380V - 400V - 415V - 4 WIRE (3P+N+G/E) - 50 or 60Hz

IVRI
OIL IMMERSED DESIGN

MAXIMUM RELIABILITY FOR THE TOUGHEST OF APPLICATIONS

Designed for maximum reliability, making them ideal the toughest of applications, IVRI 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, IVRI 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.

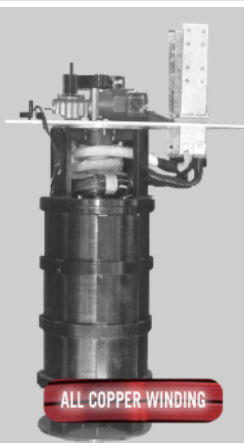
- **Lightning Surge Protection**
Protection against extremely high voltage surges and transients caused by lightning strikes on the supply line.
- **Over / Low Voltage Alarm**
Audible alarm in the event of the input supply voltage going outside the input voltage window.
- **Phase Failure & Reversal Alarm**
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 Main Switchboard (MSB)**
Floor Standing Main Switchboard with Input & Output Circuit Breakers, Manual Maintenance Bypass and Metering.
- **Compliance with International Standards**
Designed, manufactured and supplied to comply with leading international standards.
- **Warranty**
3 Years / 36 Months as Standard.



ADVANCED ROBUST BRUSHLESS DESIGN TOPOLOGY

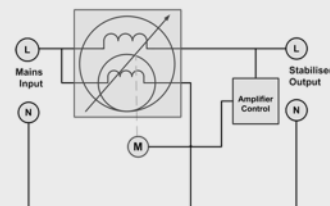
IVRI Oil Immersed Voltage Stabilisers utilize Magnetic Induction Brushless Technology to deliver highly reliable and virtually maintenance free voltage stabilisation and protection. The oil immersion of the stabiliser considerably enhances the system's cooling efficiencies and as a result delivers, in terms of physical size, a highly compact solution – especially when compared to alternative air-cooled models.

As standard, all IVRI 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, IVRI 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)

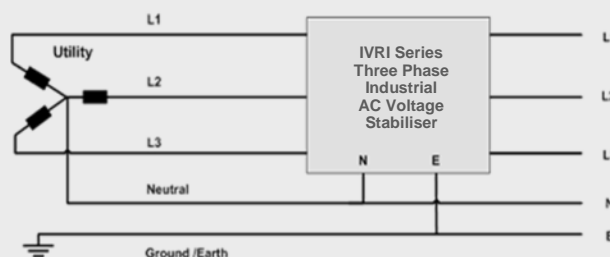
H SERIES

250 to 3000 kVA

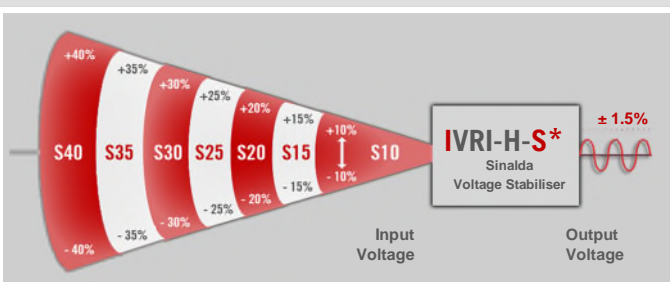
High Voltage Models:

380/220V, 400/230V or 415/240V.
(440/254V or 480V/277V to Special Order)

Other voltages available on individual request / quotation.



INPUT VOLTAGE WINDOW OPTIONS - H SERIES



In situations where there is a reasonably good mains supply, a Stabiliser offering an input variation swing of $\pm 10\%$ (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 $\pm 15\%$ 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.

Note: Alternative wider permissible input voltage window options available to order / individual request.

H SERIES - Three Phase Input Voltage Windows & Output Accuracy

Nominal Three Phase Voltage	Output Voltage Accuracy ± % of Nominal	Reading	INPUT VOLTAGE SWINGS / SWING MODEL NO VARIANTS						
			S10 (± 10%)	S15 (± 15%)	S20 (± 20%)	S25 (± 25%)	S30 (± 30%)	S35 (± 35%)	S40 (± 40%)
380V (L-N 220V)	± 1.5%	Line to Line	250 to 3000 kVA	250 to 3000 kVA	250 to 3000 kVA	250 to 2500 kVA	250 to 2500 kVA	250 to 2000 kVA	250 to 2000 kVA
		Line to Neutral	342v to 418v	323v to 437v	304v to 456v	285v to 475v	266v to 494v	247v to 513v	228v to 532v
400V (L-N 230V)	± 1.5%	Line to Line	198v to 242v	187v to 253v	176v to 264v	165v to 275v	154v to 286v	143v to 297v	132v to 308v
		Line to Neutral	360v to 440v	340v to 460v	320v to 480v	300v to 500v	280v to 520v	260v to 540v	240v to 560v
415V (L-N 240V)	± 1.5%	Line to Line	207v to 253v	196v to 265v	184v to 276v	173v to 288v	161v to 299v	150v to 310v	128v to 315v
		Line to Neutral	374v to 457v	353v to 477v	332v to 498v	311v to 519v	291v to 540v	270v to 560v	249v to 581v
		Line to Neutral	216v to 264v	204v to 276v	192v to 288v	180v to 300v	168v to 312v	156v to 324v	144v to 336v

TECHNICAL SPECIFICATION

Technology:	Magnetic Induction Design - Brushless Oil Immersed
Input Voltage Swing Variant Options Available: (S*)	Swing Model Nominal Voltage
	S10 ± 10%
	S15 ± 15%
	S20 ± 20%
	S25 ± 25%
	S30 ± 30%
	S35 ± 35%
	S40 ± 40%
	Three Phase, 4 Wire (3 Phase + Neutral). Other swing options available to special quotation / order.
Output Voltage:	Pre-settable for any voltage between 380/220V, 400/230V, or 415/240V - <i>Customer to Specify</i> , 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 - <i>dependent on the selected permissible input voltage swing and system rating.</i>
Efficiency:	≥ 97%
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 2 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.
Insulation Oil:	Uninhibited Transformer Oil conforming to BS EN 60296 (2004).
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.
CE Conformity:	CE Marked - being fully compliant with European Union Directives 2014/30/EU (The EMC Directive) and 2014/35/EU (The Low Voltage Directive).
Standard Warranty:	Three Years / 36 Months from date of supply (<i>As an add-on option extendable to 5 Years</i>)
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) Lightning Surge Arrestors Oil Pressure Safety Release Valve Supplied Oil Filled
Optional Main System Switch Board (MSB): <small>(3 Pole as standard with 4 Pole option)</small>	System Switch Board with - Input Circuit Breaker, Output Circuit Breaker, Manual Maintenance Bypass Switch & Metering & Interlocking Protection

PRODUCT SELECTION TABLE

Model	Rating kVA	Max Rating (Amps per Phase)			Dimensions & Weights
		@ 380V	@ 400V	@ 415V	
IVRI-250H-3P-S*	250	379	360	347	<i>Dimensions & Weights available on Request - according to the S* Swing Model Variant required.</i>
IVRI-500H-3P-S*	500	759	721	695	
IVRI-650H-3P-S*	650	987	937	904	
IVRI-750H-3P-S*	750	1139	1082	1043	
IVRI-1000H-3P-S*	1000	1518	1443	1390	
IVRI-1250H-3P-S*	1250	1898	1803	1738	
IVRI-1500H-3P-S*	1500	2278	2164	2086	
IVRI-1600H-3P-S*	1600	2430	2308	2225	
IVRI-2000H-3P-S*	2000	3037	2885	2781	
IVRI-2500H-3P-S*	2500	3797	3607	3447	
IVRI-3000H-3P-S*	3000	4556	4328	4172	

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



Model - IVRI-650H-3P-S25 (400V)
650kVA Three Phase Oil Immersed Industrial Voltage Stabiliser / Regulator





ADDITIONAL MSB OPTION: MAIN SYSTEM SWITCHBOARD WITH MANUAL BYPASS

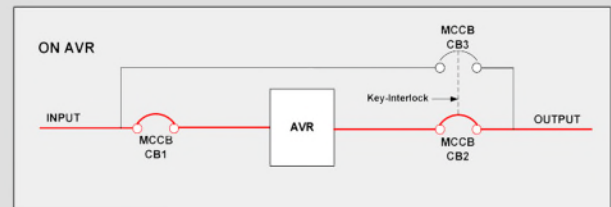
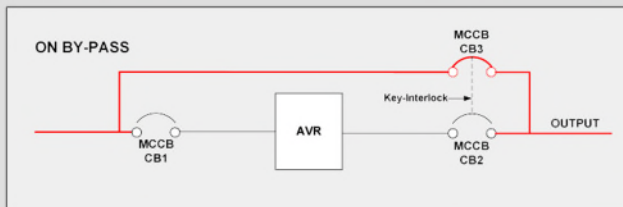
Sinalda UK's MSB Series Switchboards offer a single, space saving, solution for your electrical power distribution and control needs. They are specifically designed and tailored to complement and support Sinalda UK's IVRI range of Three Phase Magnetic Induction based Industrial AC Voltage Stabilisers and Regulators.

Models are available in ratings from 500 to over 5000 Amps and come as standard with Castel Interlocking.



3 POLE (-TP) OR 4 POLE (-FP) Option

SINGLE LINE DIAGRAM



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.



IVRI SERIES

Industrial AC Voltage Stabilisers and Power Line Conditioners are available from -

For Stable, Clean & Optimised AC Voltage

