

AC Variable Transformers

Accurate, Reliable and Long Lasting Voltage Control - for a diverse variety of applications.

Sinalda's Setavolt™ Variable Transformers offer a full range of single and three phase models. Standard models include input voltages from 120VAC to 480VAC and 3 to over 800 Amps. Special units for voltages up to 1000VAC are available to order. They are categorized by their input voltage, output voltage and number of phases. If you do not find the transformer that meets your application requirements, please contact us with your detailed specifications.

While today there are many modern alternatives to the Variable Transformer for controlling voltage, the load tolerant nature of the Variable Transformer ensures that it is still the best and most reliable method of control for a large variety of applications where stepless control of a distortion-free AC output and dependent parameters are essential.

Typical uses include quality control testing, electronic equipment burn-in, low voltage performance evaluation, DC rectifier / regulator analysis or other industrial and engineering applications.

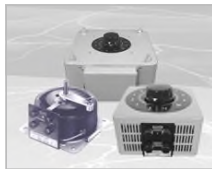
Our enduring ranges of variable transformers all deliver an efficient and trouble free method of varying AC voltages with an output from zero to line voltage.

Ranges Available -

SA SERIES - SINGLE PHASE

Manually operated variable transformers from 3 to over 100 amps.

HB Models - 220V to 240V > Page 3
LB Models - 110V to 120V > Page 4



SA SERIES - THREE PHASE

Manually operated variable transformers from 3 to over 60 amps.

HB Models - 380V to 415V > Page 5 & 8
- 440V to 480V > Page 6 & 9
LB Models - 190V to 208V > Page 7 & 10



mSA SERIES - SINGLE & THREE PHASE

Single & Three Phase motorized variable transformers from 3 to over 150 amps.

Single Phase 3 to 80 amps - 220V to 240V > Page 11
- 110V to 120V > Page 12
Three Phase 10 to 150 amps - 380V to 415V > Page 13
- 440V to 480V > Page 14
- 190V to 208V > Page 15



ISA SERIES - THREE PHASE

Three Phase oil immersed motorized induction variable transformers from 150 to 800 amps

H Models - 380V to 415V > Page 16



setavolt™

Manual & Motorised

AC Variable Transformer
Single & Three Phase

3 to over 800 Amps



FEATURES

- High Efficiency & Excellent Regulation
- Distortion Less Voltage Control
- Low Operating Torque
- Trouble Free Endurable Mechanical Construction for Long Life
- Negligible Maintenance
- Straight forward Installation & Use
- Compliance with International Standards
- CE Conformity & RoHS Compliance
- 1 Year / 12 Months Warranty

NB: For applications where the Frequency is also required to be changed, please ask for details on our range of **FCL** Static Variable Output Voltage & Frequency Converters.

AC VARIABLE TRANSFORMERS

Proven and Endurable Design

The basic variable auto-transformer consists of a copper winding on a toroidal core of laminated, grain-oriented, silicon steel. A carbon brush, connected to an output terminal, is rotated over the length of a precision-ground, commutator track to tap off voltage at any turn from zero volts to the maximum output voltage of the winding.

Unlike a standard fixed ratio transformer, Setavolt[™] variable transformers are designed to provide an infinitely variable step less output voltage that can be adjusted from 0 to 117% of the transformer's input voltage.



CE

Design Features

✓ High Efficiency & Excellent Regulation

In contrast to current hungry rheostats and other resistive type voltage controllers, Setavolt[™] variable auto-transformers have an extremely small power loss, delivering efficiency of 98% or better.

Within the transformer ratings, our variable transformers deliver, from no-load to full load current, negligible variation in output voltage.

✓ Distortion Less Voltage Control

Due to the superiority of the core design and quality of the steel grade utilised, Setavolt[™] Variable Transformers provide a facsimile of the input waveform with negligible distortion - an essential feature required by many electronic applications.

✓ Low Operating Torque

Due to the ultra smooth commutator surface, correct and constant contact pressure of the brush on the commutator, combined with the firm positioning of the coil and internal components ensures all Setavolt[™] Variable Transformers deliver a low operating torque.

✓ Trouble Free Mechanical Construction for Long Life

All Setavolt[™] variable transformers are designed for heavy-duty and trouble free operation.

Built to exacting mechanical tolerances, using the finest materials available, the quality of design and build ensures minimal maintenance requirements and enhanced design life.

✓ Negligible Maintenance

When operated in accordance with the operating instructions, the only component that may require periodic inspection and occasional replacement are the brushes. As the brushes are made of a special highly durable carbon and the design ensures proper contact with the commutator at all times, the need for replacement is infrequent.

✓ Straight forward Installation & Use

Whether for bench use or panel mounting, installation, mounting and use is designed to be easy. Terminals are easily accessible - screw or lug. Output, on manually operated variable transformers, is controlled by either clockwise or anti-clockwise knob rotation.

✓ International Standards Compliance & CE Conformity

All Setavolt[™] variable transformers are designed and manufactured to comply with all relevant International Standards and appropriate European Union CE Directives.

Typical Applications

- Quality Control Testing
- Test Benches
- Furnace Transformers
- Electronic Equipment Burn-In
- Lighting Dimmers
- DC Rectifiers
- Low Voltage Performance Evaluation
- High Voltage Test Sets

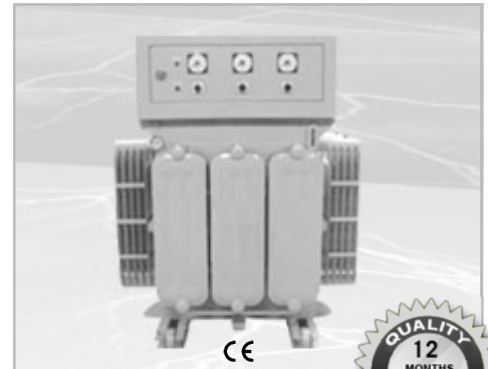
THREE PHASE - INDUSTRIAL - MANUAL & MOTORISED AC VARIABLE INDUCTION TRANSFORMERS

iSA-H SERIES

Magnetic Induction Brushless Design - ideal for the larger Industrial style applications

380 to 415V three phase input oil immersed induction manual & motor controlled variable transformers, delivering an output of 20V up to 600V [1000V - X1000 Option].

Supplied as standard in IP20 (NEMA 1 style) freestanding enclosures, with digital voltmeter and ammeter and up / down push buttons for output voltage selection, models can also be supplied as air cooled solutions [-AC Option].



iSA-H SERIES - Model Selection

Amps per Phase	Setavolt Model	Nominal Volts AC	kVA @max output volts	Output Volts AC	Dimensions W x H x D mm	Weight kgs
150 Amps	iSA-150H-380	380V	156	20 to 600V	1300 x 1900 x 1300	2600 Kg
	iSA-150H-400	400V	156	20 to 600V		
	iSA-150H-415	415V	156	20 to 600V		
200 Amps	iSA-200H-380	380V	208	20 to 600V	1420 x 1900 x 1420	3400 Kg
	iSA-200H-400	400V	208	20 to 600V		
	iSA-200H-415	415V	208	20 to 600V		
300 Amps	iSA-300H-380	380V	312	20 to 600V	1510 x 1900 x 1510	3700 Kg
	iSA-300H-400	400V	312	20 to 600V		
	iSA-300H-415	415V	312	20 to 600V		
400 Amps	iSA-400H-380	380V	416	20 to 600V	1620 x 2000 x 1620	4000 Kg
	iSA-400H-400	400V	416	20 to 600V		
	iSA-400H-415	415V	416	20 to 600V		
500 Amps	iSA-500H-380	380V	520	20 to 600V	1620 x 2220 x 1620	4400 Kg
	iSA-500H-400	400V	520	20 to 600V		
	iSA-500H-415	415V	520	20 to 600V		
600 Amps	iSA-600H-380	380V	624	20 to 600V	1720 x 2220 x 1720	4700 Kg
	iSA-600H-400	400V	624	20 to 600V		
	iSA-600H-415	415V	624	20 to 600V		
700 Amps	iSA-700H-415	380V	727	20 to 600V	1820 x 2320 x 1820	4950 Kg
	iSA-700H-415	400V	727	20 to 600V		
	iSA-700H-415	415V	727	20 to 600V		
800 Amps	iSA-800H-380	380V	831	20 to 600V	1910 x 2320 x 1910	5100 Kg
	iSA-800H-400	400V	831	20 to 600V		
	iSA-800H-415	415V	831	20 to 600V		

Other voltage configurations and larger ratings available to order.

NB: 1000V Output Models are designated as Model Nos /1000 [where the 1000 replaces the standard 600] and offer a output voltage range of 30 to 1000V.

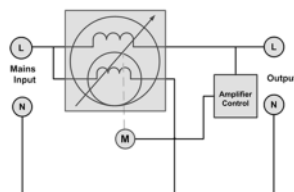
Technical Specification

Input Voltage:	380V or 400V or 415V Three Phase, 4 Wire - Customer to Specify
Output Voltage:	20 ~ 600V Adjustable (No Load 20 ~ 720V) [Option - 30 ~ 1000V Adjustable]
Frequency:	50Hz
Power Factor:	> 0.95
Efficiency:	≥ 98% @ Full Load
Overload Capability:	≤ 100% max. current rating continuous ≤ 150% max. current rating for 100 seconds ≤ 200% max. current rating for 10 seconds
Protection:	Up/Down Over Limit - c/w 2 Stage Protection for Auto-Shutdown Protection In the event of Up / Down limit failure auto shutdown Micro-Switch
No Load Wave-form Distortion:	< 3%
Insulation Level:	Class A
Cooling Type:	Oil Immersed [Option - Air Cooled]
Audible Noise:	< 65dBA at 1 meter
Environment:	Temperature range 0 to 40°C. Suitable for indoor tropical use up to 95% RH (non-condensing). Maximum altitude 1000m. .
Construction:	Enclosures to IP20 (NEMA 1 Style) BS EN5490 / IEC 60529.
Standard Feature	Digital Voltmeter/Ammeter/Selector Switch UP/Down Push Button & Push Button Controller with 3 mtrs cable cord.
CE Conformity:	CE Marked - being fully compliant with European Union Directives 2004/108/EC (replaced EMC Directive 89/336/EEC from July 2009)
Compliance:	BS 7452:1991 (IEC 60989:1991)
Warranty:	1 Year / 12 months from date of supply

Typical Applications: Quality Control Testing, Low Voltage Performance Evaluation, Electronic Equipment Burn-In, Furnace Transformers, Test Benches, Lighting Dimmers, High Voltage Test Sets & DC Rectifiers.

DESIGN PRINCIPLE

As a Magnetic Induction based solution, iSA Variable Transformers 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 allowing the output voltage to varied. 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.



TAILORED VARIABLE TRANSFORMER SOLUTIONS
SINGLE & THREE PHASE

Cost Efficient Tailored Solutions
to your exact requirements

The team behind Sinalda UK have been manufacturing variable auto transformers for over 40 years, building standard as well as custom-designed products for industrial, commercial and military applications.

If our standard models do not meet your specific requirements, contact us. Our engineering staff are always available to solve your specific application requirements. With our extensive portfolio of proven designs, often it just requires a minor revision to an existing design, enabling us to be able to offer you a cost-efficient solution to your precise requirements.



Extended Voltage Options

Our standard variable auto transformers are rated for

Model:	Single Phase	Three Phase (3 & 4 Wire)
H Series	220 to 240V	380 to 415V
		440 to 480V
L Series	110 to 120V	190 to 208V

In addition we are able to offer, on individual request, solutions for other nominal input voltages and configurations, including 440V & 480V three phase and applications where the output voltage is required to be able to go as high as 1000V.

Typical Examples

Model:	SA-201-HB-CB-X1000 (240V)
	1 kVA Single Phase Variable Transformer
Input:	240V Single Phase 2 Wire 50/60Hz
Output:	0 to 1000V Single Phase 2 Wire 50/60Hz
Rating:	1 Amp

Model:	mSA-32353-HB-X600 (415V)
	77 kVA Three Phase Motorised Variable Transformer
Input:	415V Three Phase 4 Wire 50/60Hz
Output:	0 to 600V Three Phase 3 Wire 50/60Hz
Rating:	75 Amps per Phase

Model:	iSA-200H-X485-AC (415V)
	168 kVA Three Phase Industrial Air Cooled Variable Induction Transformer
Input:	415V Three Phase 50/60Hz
Output:	20 to 485V Three Phase 50/60Hz
Rating:	200 Amps per Phase

Other Power Solutions
available from Sinalda (UK)

AC Voltage Stabilisers / Regulators & Power Conditioners



Provide protection against fluctuations and vagaries of the utility mains supply and enhance the power quality of the businesses and organisations they protect.

AC Volt Drop Compensators



Compensates for voltage drops inherent in long cable runs, allowing substantial savings to be made on electrical power cable costs.

AC Voltage Optimisers (AVOs)



Delivers reductions in energy usage by optimising the electricity supply voltage, enabling energy cost savings and reductions in carbon emissions.

Want to learn more about the Power Protection Solutions available from Sinalda UK?

Check us out online at

The Universal AC Power Source

Voltage & Frequency Conversion

IDEAL FOR USE IN TESTING CENTRES, RESEARCH LABS AND TESTING ON PRODUCTION LINES

FCL Static Variable Output Single & Three Phase Voltage & Frequency Converters utilise the latest in solid state Pulse Width Modulated (PWM) Inverter and Rectifier technology, combined with Galvanic Isolation, to deliver a clean and regulated variable AC power supply - ideal for use in testing centres, research laboratories and for testing on production lines.

