

Servo Voltage Regulator AVR SERIES



Hannibal Servo Voltage Regulators consist of the Toroidal Variac “Variable Transformer”, Booster Transformer, Servo Motor, and Microprocessor control circuit. The microprocessor-based electronic card measures the mains voltage and adjusts the position of the supply with the servomotor so that the output voltage is 220 VAC or 380 VAC. Protect the loads against voltage fluctuations and low or high voltage. It is ideal for industry and the military, especially for machines, and elevators that are sensitive and require fast regulation, and for the installations in locations with demurrage problems.

Servo Voltage Regulator AVR SERIES

Product overview

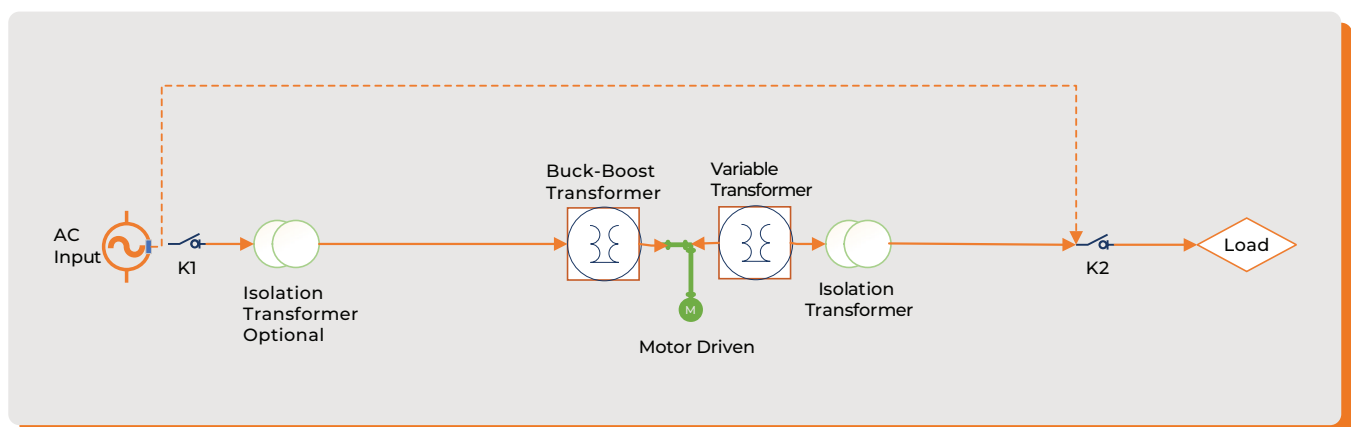
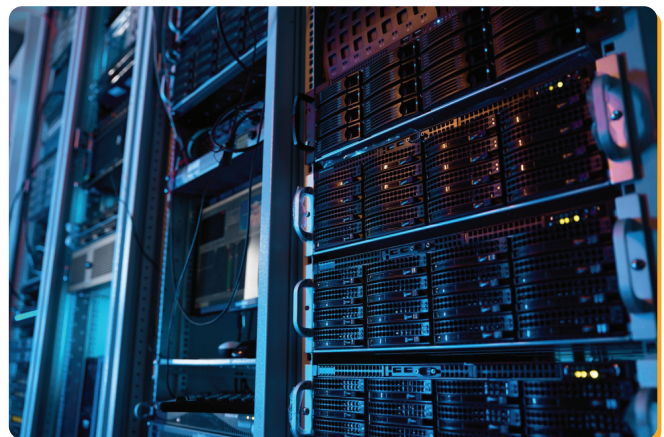
- Hannibal servomotor voltage stabilizers are the ideal solution to protect sensitive equipment from constant voltage fluctuations in the power supply.
- Moreover, in the event of drops in the total consumption of a power line, voltage tends to rise, causing overconsumption in the equipment that remains connected. By using a stabilizer, overconsumption can be eliminated, thereby producing significant cost savings and ensuring that connected loads function within the voltage range for which they were designed.
- The operating principle is based on regulation, by means of a control circuit, of the variable autotransformer that supplies the voltage for the booster transformer in series, to achieve the rated value of the output voltage.

GENERAL SPECIFICATIONS

- Microprocessor Controlled.
- Output Voltage Correction with $\pm 1\%$ Accuracy.
- High Efficiency $>96\%$.
- Over Current, High Temperature, High-Low Voltage and Short Circuit Protection.
- 1min at 100%-125% load, 10sec at 125%+ load.
- Input Voltage, Output Voltage-Current in User-Friendly Panel, Showing %Load and Transformer Temperature Values.
- Advanced Alarm Menu.
- Manual Bypass.
- Chassis Technology Not Affected by Dust, Moisture and Vibration.
- Fan Cooling System.
- Compact Production with Quality Materials.
- Minimum Risk of Failure.
- CE Certified.

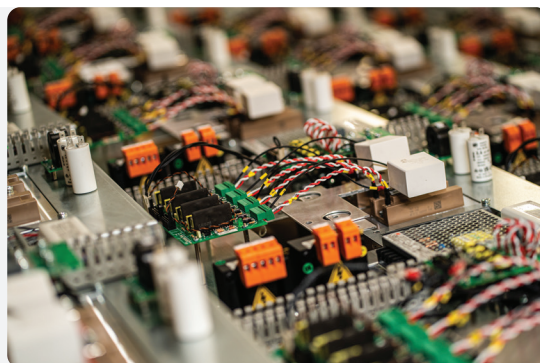
Advantages of Servo Type AC Voltage Stabilizer :

- Fast Voltage regulation.
- Output voltage accuracy 1%.
- Smooth stepless variation in the output voltage.
- sinusoidal waveform output.



Key Features

- Power Range, Single phase up to 50 kva and Three phase up to 3000 kva.
- High Speed regulation up to 150 V/s.
- Stable operation in event of load or voltage variation.
- Quite Operation.
- Suitable for regenerative loads.



Technical Data

Input	
AVR Topology	Servo
Control System	AC Servo Motor
Input Voltage -Single Phase	110/120/200/220/240/277 V
Input Voltage -Three Phase	208/220/240/380/400/415/480 V
Voltage tolerance	+/- 15 %
Frequency	50 Hz (60 Hz)
Frequency range (temporary)	+/- 5 %
Efficiency	94%
Power Factor	0.8

Output	
AC Voltage	
- Single phase	1 x 230 V (220, 240) ; 1 x 110 V (115, 120)
- Three phase	3 x 400 V (380, 415) ; 3 x 220 V (200, 208, 230)
AC Voltage Tolerance	3%
Frequency	50 Hz (60 Hz)
Frequency Tolerance	+/- 0.05 %
Regulation speed	150 V/s
overload capability	
- 1 minute	125% of nominal power
- 10 minutes	110 % of nominal power
Harmonic voltage distortion	
- With 100 % linear load	< 3 %
- With 100 % non-linear load	SS as per IEC/EN 62040-3
Power Factor	0.8
Efficiency	90%

General Data

Title	
Operating temperature	0 to 40 °C
Storage temperature	-20 to +70 °C
Relative humidity	< 95 % non condensing
Operating altitude	1000 m max without derating
Cooling	Fan Forced, free cooling -Optional
MTBF	<150,000 h
External protection	IP 20v according to IEC 60529
Internal protection	Protection against unintentional direct contacts as per IEC 60950-1/62477-1
Noise (at 1m in front of the unit)	60 – 75 dB according to rating
Cabinet colour	RAL 7035v
Touch Panel " HMI"	Optional
Communication	RTU RS232-Standard RTU RS485 -TCP/ IP - Optional
Dimensions	Varying according to ratings and options

Standards

Standards	
IEC61558-2-2014	Safety requirements
IEC62041-2:2016	Electromagnetic compatibility (EMC) requirements
ISO 9001, ISO 14001	Certificate

Options

RFI filter.
 Bypass line.
 Surge Protection.
 Redundant Fans.
 Natural Cooling + Smart Fan System.
 Cabinet color can be chosen from RAL codes.
 Cable Entry (Top/side/bottom/rear).
 Ingress Protection: up to IP66.
 Touch Panel with Mimic Diagram.
 Auxiliary Trip Contact.
 Earth Fault Protection (adjustable).
 Phase Voltage/Sequence protection.
 500 Real Time Event Log with Detailed Parameters.
 User Friendly Multilingual 320x240 Graphic Display.
 Operation Information.
 Monitoring and Shutdown Software.
 RS232 Serial and RS485 Ports.
 Modbus RTU.
 2 Communication Slots.
 Remote Emergency Power Off.
 Remote Display Panel.
 Dry Contact.
 SNMP.