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# Stabilizer

## STABILIZER



### INTRODUCTION

In spite of best efforts by ELECTRICITY BOARD and various other factors, the supply voltage at user's location does fluctuate much beyond the required operating limits of Electrical/ Electronics equipments. This causes malfunctioning/damage to these equipments resulting into production losses & costly repairs.

To ensure the safety against the voltage fluctuations, with wide practical experience in the field we are now introducing 'Niyantran' the SERVO CONTROL VOLTAGE STABILIZER, to maintain the potential level constant, which will be connected to expensive & other Microprocessor based equipments.

### OPERATION

Voltage Stabilizer employs a continuously variable auto transformer (variac) to feed a variable boosting/bucking voltage in the mains line through a series regulation transformer.

The output voltage of the stabilizer is sensed & compared with the reference voltage to produce a control signal for servo motor which is coupled to variac through a pair of gears.

This function is performed by an electronics control termed as control/protection unit. Any change in stabilizer output is sensed by the unit & in turn signals the motor to rotate clock or anti-clock wise, to get constant output voltage.

The control/protection unit has built in feature of under voltage protection & over voltage protection, along with electromagnetic relay to operate the circuit breaker. Trip can be reset manually after the voltage is normalized.

### FEATURES

- Fully Solid State controller.
- Minimum over shoot, No hunting.
- Fast Response time.
- High or Low input voltage trip.
- Indication (Audio & Visual indication)
- Single phase prevention.
- Waveform distortion same as input.
- Regulation better than 2%
- Manual start & Buzzer reset.
- Auto/Manual mode inside the cabinet.
- A unique chassis design for easy accessibility for servicing.
- Surge suppressor using "MOV".
- MCB for over load.



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## TECHNICAL SPECIFICATIONS

### SPECIFICATION OF VOLTAGE STABILIZER

<b>CAPACITY</b>	From 3 KVA upto 500 KVA 3Phase+N+E
<b>TYPE OF CONNECTION</b>	Star type suitable for unbalance Loads.
<b>INPUT VOLTAGE</b>	300 V to 480 V Line to Line & 345 V to 480 V Line to Line Other ranges can be Quoted on request.
<b>OUTPUT VOLTAGE</b>	380 V/ 415 V Line to Line 220 V/240 V Line to Neutral Other Output optional
<b>OUTPUT VOLTAGE ADJ</b>	+/- 10 Volts L / N
<b>SUPPLY FREQUENCY</b>	As Input Frequency (50 Hz)
<b>OUTPUT REGULATION</b>	+/- 1% Nominal output from no load to full load & from Min. to Max. line variation.
<b>RATE OF CORRECTION</b>	35 Volts/Sec.
<b>RESPONSE TIME</b>	Less than 10 milliseconds
<b>SERVO MOTOR</b>	High Torque AC syn motor controlled by a truly solid state electronic controller.
<b>OUTPUT WAVEFORM</b>	Same as Input.
<b>EFFECT OF P.F.</b>	System not affected by load Power Factor.
<b>FACILITY FOR MANUAL OPERATIO</b>	Provided by means of an Auto-Manual selector switch and Raise /Lower push button switch inside the stabilizer.
<b>OVER LOAD CAPACITY</b>	Can withstand motor starting overload upto 200%
<b>EFFICIENCY</b>	Better than 96 %
<b>DUTY</b>	Continuous.
<b>TYPE OF CABINET</b>	Free Standing Unit.
<b>COOLING</b>	Naturally Air cooled upto 75 KVA 3 °Phase and from 75 KVA onwards Oil Cooled.
<b>EFFECT OF SPIKES</b>	No Spikes or surges introduced by unit.
<b>MONITORING VOLTMETER</b>	Digital Voltmeter with keypad type selector switch to read Line to Line as well as Line to Neutral Voltage of Input and Output.
<b>ON/OFF SWITCH</b>	A Pair of keypad switches connected to Airbrake Contactor will be provided for Stabilizer On/Off Operation.
<b>PROTECTION FEATURES</b>	Over voltage / Under voltage and single phasing Protection. Trip Levels : +/- 10-12 Volts Trip Reset : Manual Trip Status : Individual LEDs for High and Low.
<b>SHORT CIRCUIT AND OVERLOAD PROTECTION</b>	Is provided by an MCB at input
<b>SURGE SUPPRESSOR</b>	MOV are used.
<b>SINGLE PHASING PREVENTION</b>	Provided by means of contactor.