

DESCRIPTION

'AE' make Servo Controlled Automatic AC Voltage Stabilizers conform to IS:9815 & are of Electro-Mechanical Type Stabilizer (EMS)

The purpose, of voltage stabilizer is to receive a fluctuating AC voltage of large amplitude & deliver an almost constant voltage, which remains within a very narrow band ($\pm 1\%$) of the nominal voltage - quality of the AC voltage remains unchanged.

The voltage variations, which have become a common phenomenon in power supply system, caused havoc in modern complicated & sophisticated equipments. The voltage stabilizers are meant to take care of this problem & protect the equipments. They ensure longer life of the equipments & also drastically cut down electricity consumption of equipments leading to continuous reduction in electricity bills. Thus, they play an important role in energy conservation which is need of the day.

The EMS type AC voltage stabilizers basically comprises of the following –

- Motorised Dimmerstat (Continuously variable voltage auto transformer).
- Buck-Boost Transformer
- AC Step-synchronous motor.
- Solid state electronic control circuit with switching triacs
- MOVs for surge suppression.

FEATURES

- Waveform distortion - nil.
- High efficiency (98-99%) (achieved by optimum design & by use of imported hi-quality CRGO laminations & 99.9% purity copper)
- Highspeed of correction (depends on input voltage range and capacity)
- Response time - less than 20ms.
- Immune to load PF & supply frequency variations.
- Power loss max. 2%
- Continuous Duty cycle
- Life expectancy - 20 -25 years.
- Easy & simple maintenance (with plug-in PCBs).
- Protections - over voltage / under voltage / overload - (optional)
- Very high reliability.
- Considerable short time overload capacity. (Suitable for starting current of Induction Motor)
- Output voltage setting (by potentiometer in Auto Mode & by Raise / Lower Push Button in Manual Mode)
- Operation - Auto or Manual.
- LED Indications for Input Voltage High / Low.
- Metering (Analogue or Digital) – AC voltmeter with / without selector switch.
- Non-standard requirements can be catered to, such as AC Ammeter, Frequency Meters, Phase Sequence Meters, Single Phasing Preventor, Stabilizer by – pass arrangement, etc.



**THE CONTROL & MONITOR SYSTEM
OF THESE VOLTAGE STABILIZERS
HAVE FOLLOWING STANDARD FEATURES**

1. Alarm lamps which light up when the input voltage goes above or below the maximum or minimum specified Input Voltage
2. Voltmeter, with selector switch, to indicate either input or output voltage.
3. Screw driver adjustment to set the output voltage to the exact specified level.
4. 'Auto-Manual' selector switch to select the mode of working of the Stabilizer. In the event of failure of Automatic control, the unit can be used under Manual control.
5. Push Button Switches marked "Raise" & "Lower" to increase or decrease the output voltage when unit is under manual control.
6. Easily replaceable and serviceable printed circuit cards.(PCB)

Following deviations from standard types of Stabilizers are possible, subject to confirmation:

1. Non-standard input voltage range, output voltage and KVA rating.
2. Automatic Alarm/Power cut-off in case of over voltage, under voltage, overload and phase failure.

ELECTRICAL SPECIFICATIONS

- MODEL : EMS-12
- TYPE : Indoor, Floor Mounting.
- COOLING : Air-Cooled / Oil Cooled / Air – Oil Cooled.
- INPUT : 160 - 260V / 180 - 250V, 1Phase AC.
300 - 460V / 360 - 460V, 3Phase, AC
4 Wire (or 3 Wire if required)
(for a Balanced or Unbalanced input voltages)
- OUTPUT : 220V / 230V / 240V $\pm 1\%$, 1 Phase AC.
380V / 400V / 415V $\pm 1\%$, 3 Phase AC.
- CAPACITY : 1kVA - 3500kVA
- FREQUENCY : 50 - 60Hz.
- INSULATION RESISTANCE : Above 5M ohms at 500V DC
- DIELECTRIC TEST : 1.5kV RMS for 1 minute.
- OPERATING TEMP. : 0°C to 50°C
- STORAGE TEMP. : -9°C to 70°C
- HUMIDITY : up to 95% RH
- CONFORMS TO : I.S. 9815

NOTES

- Input & output voltages, other than specified above, are available on specific request.
- For 3 Phase balanced supply system, a common controller, connected to any one phase is employed.
- For 3 Phase unbalanced supply system, 3 individual & independent controllers, one for each of the 3Phases, are employed.
- Oil should be Transformer Oil Conforming to IS 335, IEC 296.



APPLICATIONS :

CNC Machines, Air Compressors, Textile Machines, Lightings, X-ray & Medical Equipments, Engineering Units, Computers, Pump Sets, Transmitters & many other similar applications.

Ordering information

- Model
- Type
- Cooling
- Input Voltage range (Balanced or Unbalanced)
- Output Voltage
- Capacity (kVA)
- Protections (if required)
- Non-standard metering.
- With / without first filling of oil (only for oil cooled units).