

Static Excitation Unit/Automatic Voltage Regulator (AVR) Panels

We have acquired specialization in manufacturing above products due to our long association with generator manufacture as OEM. We have developed our own design and electronic circuits for SEU/AVR Panels which is robust, simple, reliable and proven.

Operational Features :

- Thyristorised control
- Good regulation $\pm 1\%$ from no load to full load at 0.8pf
- Response time of the order of power cycles, if suitable forcing margins are allowed in the machine. These lowest possible time constants guarantee quick voltage recovery on large load imposition/rejection. Adjustable stability control.
- Adjustable Droop control enable parallel operation of machines of different ratings.
- Large safety margins allowed on rating of all semi conductor devices and protection against surges.
- Silicon devices selected to provide satisfactory operation even at high ambient temperature up to 50°C.
- Terminal voltage of the alternator can be set manually at $\pm 10\%$ of rated value.
- High Performance and high reliability is achieved through simple (low components / function ratio) design.
- Design offers DC contactor and Field Discharge resistance to ensure very fast discharge of rotor energy. Without above design feature in an event of stator fault, the damage can be very expensive.
- Manually selectable Two redundant AUTO modes of operation, Thus 100% redundancy is provided in the Electronic Control circuit.
- 100% redundancy in rectifier bridge can be provided for critical application
- Under frequency roll off circuit to protect against over excitation at low frequency (speed).
- Critical raw material is meticulously chosen to give better performance, reliability and long trouble free service.

APPLICATION : SEU PANEL

- Excellent retrofit for old worn out DC exciter driven units with poor response/ time constants, frequent breakdowns due to mechanical design and high over hauling time with no possible redundant mode except full unit replacement.
- The design has a special focus for Alternators in sugar industry, catering to kick loads of cane loaders/ vertical basket motors. This application require the system to have very low time constants and excellent recovery characteristics.
- High operation stability and designed to perform under very demanding conditions have made our SEU Panel first choice in Hydel generating stations. Hydro-power generating stations situated in remote locations warrant the need for simple but robust controllers with high degree of reliability. These units may remain idle for hours, days or months, but need to operate at full capacity as per availability of water and demand of power. Simplicity of design and operation allows low or unskilled work force to easily operate the units.
- The company is specialized in manufacturing of special SEUs for high frequency sets of the range 150 Hz ac generators, used in yarn manufacturing process. Reliability is the key as single breakdown would lead to heavy manufacturing losses.
- The static excitation unit is simple, user friendly & compact & suitable for AC generators. It derives power from main ac winding (stator) and supply power directly to the main field through slip rings. Dual channel controller panel of standard design is available both for LT and HT turbo alternators with grid parallel facility.
- SEU unit can have additional features like, Digital AVR, Over excitation current limit, Over voltage cut-off, RKVA upper and lower limits & auto change over features between auto mode 1 to 2 possible.

APPLICATION : AVR PANEL

- The AVR can be used on all brush less alternators and alternators with pilot DC exciter.
- AVR is designed to cater to thyristor loads up to 30% of rated generator load capacity.
- AVR unit is capable of running in parallel with other alternator and grid with little modification and adjustments. By adding HT step down transformer, this unit can also be used on HT alternator.
- AVR is offered with two Auto modes and one Manual mode. Auto modes are powered with thyristorised rectifier bridge while manual mode is powered with diode rectifier bridge. Specially designed power CTs and Choke circuit ensure reliable operation even during transient load conditions.
- AVR unit can have additional features like, Digital AVR, Over excitation current limit, Over voltage cut-off, RKVA upper and lower limits & auto change over features between auto mode 1 to 2 possible.
- The AVR Panel is suitable for Sugar industries for co-gen application, mini and micro Hydel stations with added sophistication, small and large DG sets for reliable operation in standby mode.

PHOTO GALLERY

