

The circuitry of the R449 Automatic Voltage Regulator (AVR) provides closed loop control of the alternator output voltage by regulating the exciter field current. The R449 can be powered by either AREP or the PMG field excitation systems and is fitted as standard on following alternators:

- ▶ 8100 Series Alternators
- ▶ 9100 Series Alternators

### Specification

- ▶ Steady state voltage regulation  $\pm 0.5\%$
- ▶ Short circuit capability:  $3 \times I_{\text{rated}}$  for 10 seconds (AREP or PMG excitation)
- ▶ Voltage sensing:
  - 0-110v Terminals = 95 to 140 volts (50/60 Hz) or
  - 0-220v Terminals = 170 to 260 volts (50/60 Hz) or
  - 0-380v Terminals = 340 to 520 volts (50/60 Hz)
- ▶ Response time:
  - Normal (1 sec) for  $\pm 20\%$  voltage variation
  - or Rapid (0.3 sec) for  $\pm 20\%$  voltage variation
- ▶ Remote voltage adjustment range:  $\pm 5\%$

### Load Adjustment Module (LAM)

On load impact, the rotation speed of the generator set decreases. When it passes below the preset frequency threshold, the LAM causes the voltage to drop by approximately 15% and consequently the amount of active load applied is reduced by approximately 25% until the speed reaches it's rated value again.



## AVR R449



## Automatic Voltage Regulator

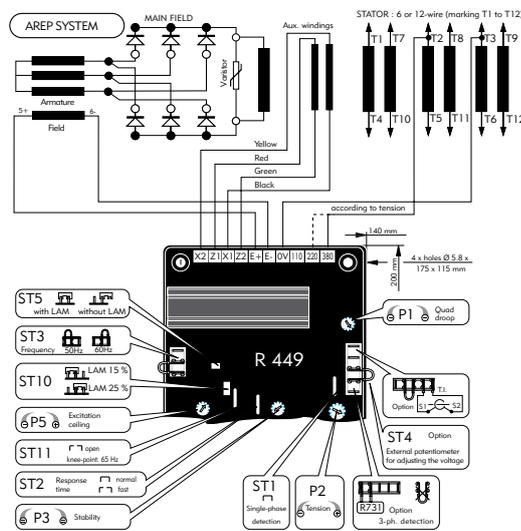


## Adjustment capability

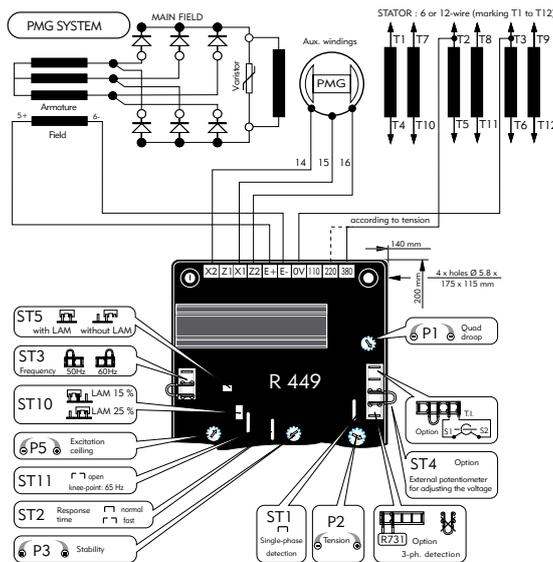
The R449 AVR features the following adjustment capabilities (Please note that no adjustments should be made prior to careful consultation of the alternator installation and maintenance manual):-

- ▶ Quadrature droop adjustment
  - ▶ Alternator output voltage adjustment
  - ▶ Stability adjustment
  - ▶ LAM Threshold (underspeed) adjustment
  - ▶ Excitation ceiling adjustment
  - ▶ Selection of single phase or three phase\* voltage sensing
  - ▶ Selection of normal or rapid response time
  - ▶ 50 Hz or 60 Hz frequency option
  - ▶ Remote voltage adjustment option
  - ▶ LAM enable/disable option
- \* Optional R731 three phase sensing module required**

## AREP System



## PMG System



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