

Generator Automatic Voltage Regulator Operation Manual



PMG or A.R.E.P or Auxiliary Winding Type Compatible with Leroy Somer R448*

Use with EPMG-1270 / EPMG-2470 add-on module can boost generator motor starting capacity

* Use for reference purpose only and not a genuine Leroy Somer produc

SECTION 1: SPECIFICATION

Sensing Input	(E1 · E2) Average Reading
Voltage	95 – 520 Vac 1 phase 2 wire
	DIP Switch Settings
Adjustment	95 – 140 Vac @ 110 Vac
	170 – 260 Vac @ 220 Vac
	340 – 520 Vac @ 380 Vac
Frequency	50/60 Hz Jumper selected

 Power Input
 (X1 \ X2)

 Voltage
 40 - 150 Vac 1 phase 2 wire

 Frequency
 40 - 500 Hz

Auxiliary Input (Z1 v Z2)

Voltage40 – 150 Vac 1 phase 2 wireFrequency40 – 500 Hz

Excitation Output (E+ ` E-)

120V 1 phase	Continuous 110 Vdc 7A
	Max. 160 Vdc 10A 10Sec
Resistance	Min. 15Ω, Max. 100Ω @120V
Fuse Spec.	Slow blow 5 x 20mm 10A

External Voltage Adjustment (1KΩ)

Max. +/- 10% @ 1 KΩ 1 watt potentiometer

Quadrature Droop Input (S1 · S2)

CT N:1A Sensitivity +/- 7%@ PF +/- 0.7 (STAT. Adjustable)

Build Up Voltage

5 Vac 25Hz residual volts at power input terminal

Soft Start Ramp Time

3 seconds +/- 10%

SECTION 2: DEMISION



Voltage Regulation Less than +/- 0.5% (with 4% engine governing)

Typical System Response 0.3 – 1 seconds @ +/- 20% Voltage Vibration

Static Power Dissipation Max. 4 watts

Under Frequency Protection

50 Hz system knee point at 45Hz 60 Hz systems knee point at 55Hz

Over Excitation Current limitation

3.5A to 10A (EXC.MAX. Adjustable)

Voltage Thermal Drift

Less than 3% from -40 to +70 °C

Environment

Operation Temperature-40 to +70 °CStorage Temperature-40 to +85 °CRelative HumidityMax. 95%Vibration5.5 Gs @ 60 Hz

Dimensions

203.0 (L) x 153.0 (W) x 60.5 (H) mm 7.99 (L) x 6.03 (W) x 2.38 (H) inch

Weight

850 g +/- 2% 1.874 lb +/- 2%

NOTICE

- 1. AVR could be installed in any suitable locations of the generator sets, the appearance and fixing holes are as (Figure 1)
- 2. To ensure safety and avoid the permanent damage to the AVR caused by the high pressure, make sure remove the connection wiring on the AVR before using megohmmeter and the voltage meter.
- 3. Make sure tie up the connection wiring of the AVR when installing in a high-vibration environment. The cooling fin could release the high temperature under the normal operation, please do not touch.

SECTION 3: DIP SWITCH SETTING



SECTION 4: CONNECTION DIAGRAMS



Figure 2. Self-Excited (SHUNT)





ATTENTION !!

- 1. Improper setting of under-frequency protection could cause the output voltage of the unit to drop or become unstable under with changes in load. Avoid making any changes to the U/F setting unless necessary.
- 2. Terminal Specification : 6.35mm (1/4 inch) Flagged Terminals
- 3. Use only replacement fuses specified in this user manual.
- 4. Appearance and specifications of products are subject to change for improvement without prior notice.



Figure 3. Auxiliary and Harmonic Power Winding