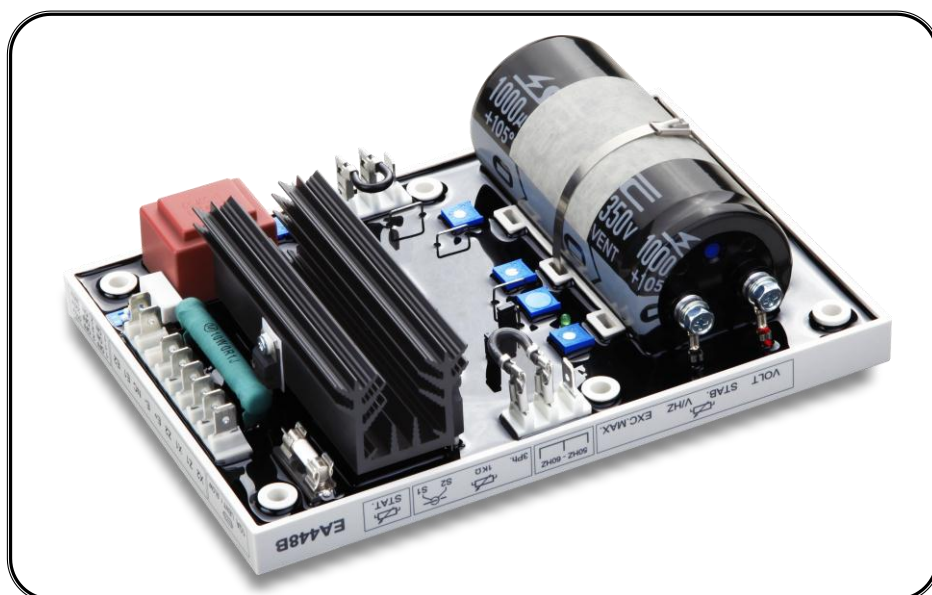


EA448B

Generator Automatic Voltage Regulator Operation Manual



Permanent Magnet Generator or A.R.E.P or Auxiliary Winding Type
Compatible with Leroy Somer R448*

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

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



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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 · Z2)
 Voltage 40 – 150 Vac 1 phase 2 wire
 Frequency 40 – 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%

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 °C
 Storage Temperature -40 to +85 °C
 Relative Humidity Max. 95%
 Vibration 5.5 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%

SECTION 2: DIMENSION

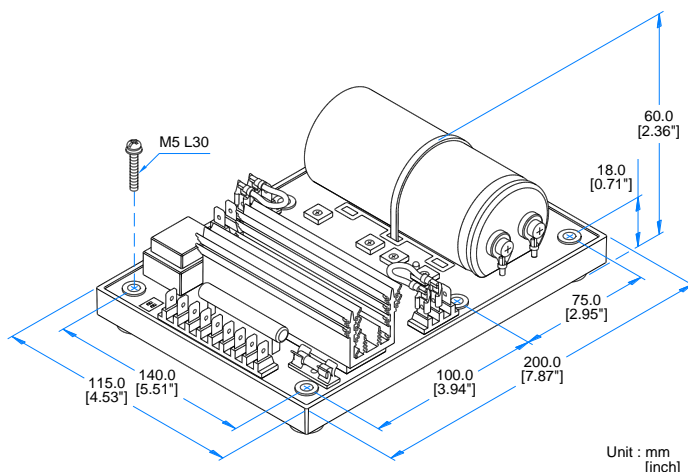
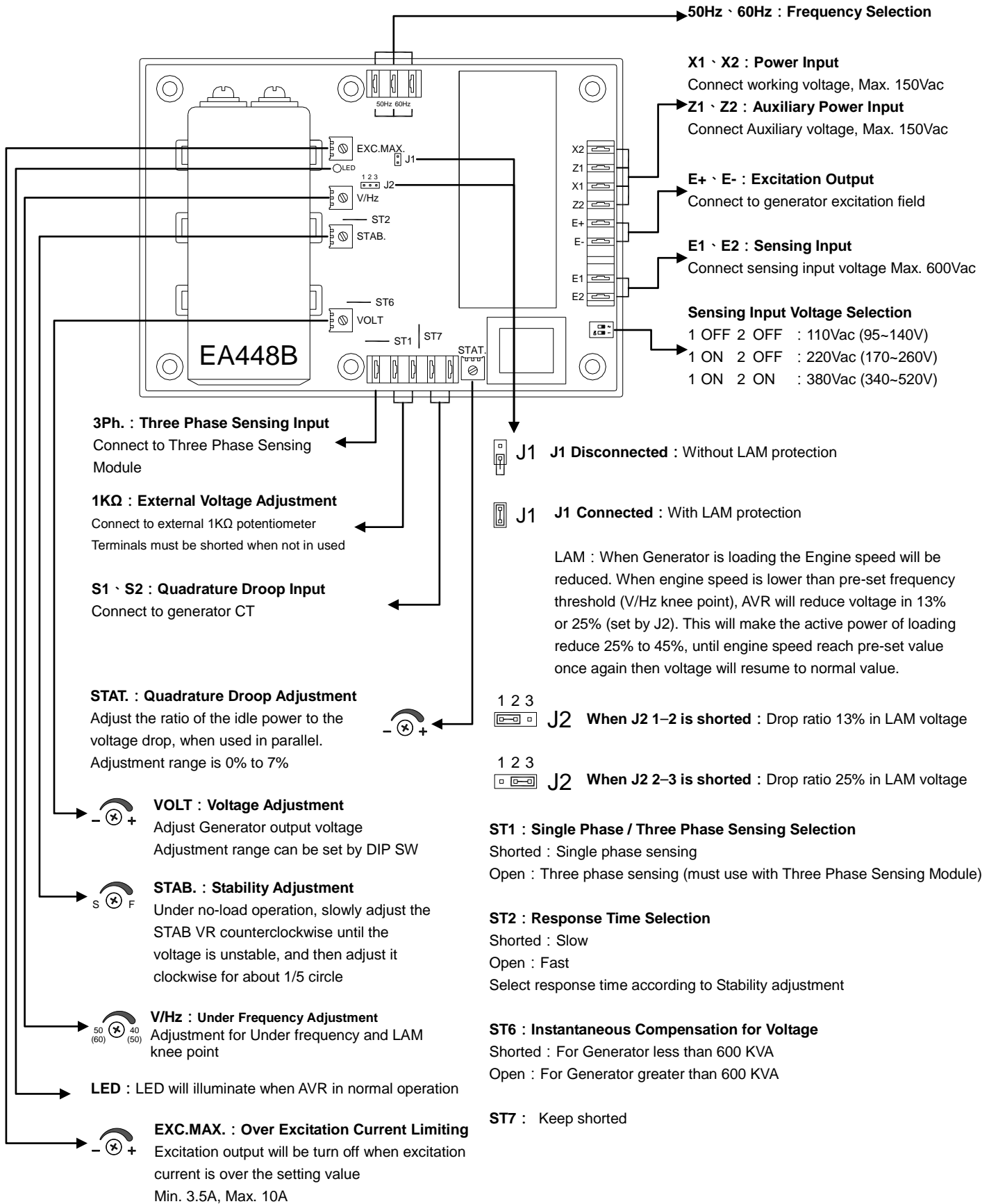


Figure 1. Outline Drawing

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

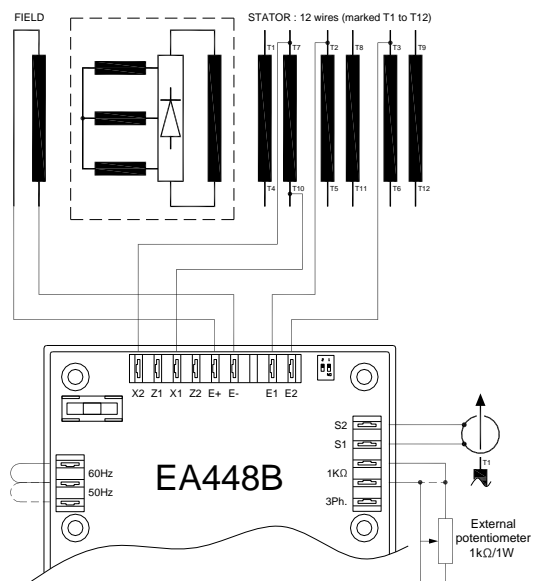


Figure 2. Self-Excited (SHUNT)

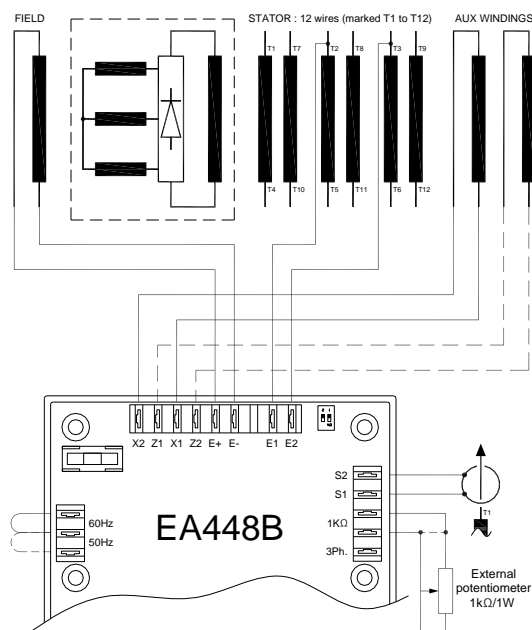


Figure 3. Auxiliary and Harmonic Power Winding

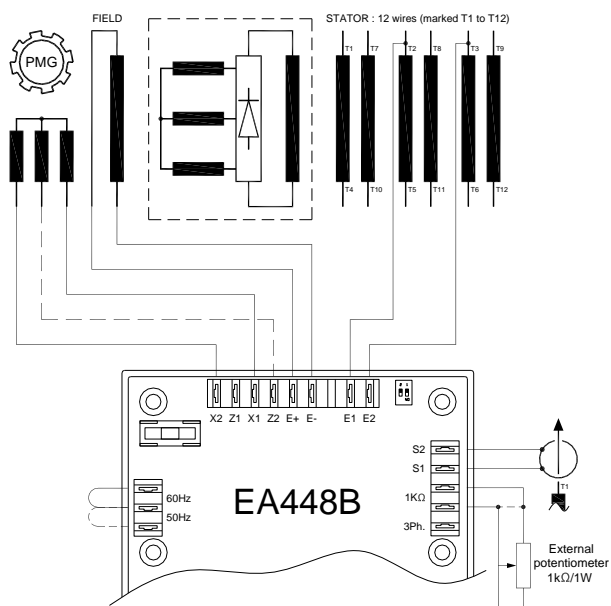


Figure 4. PMG Winding

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.