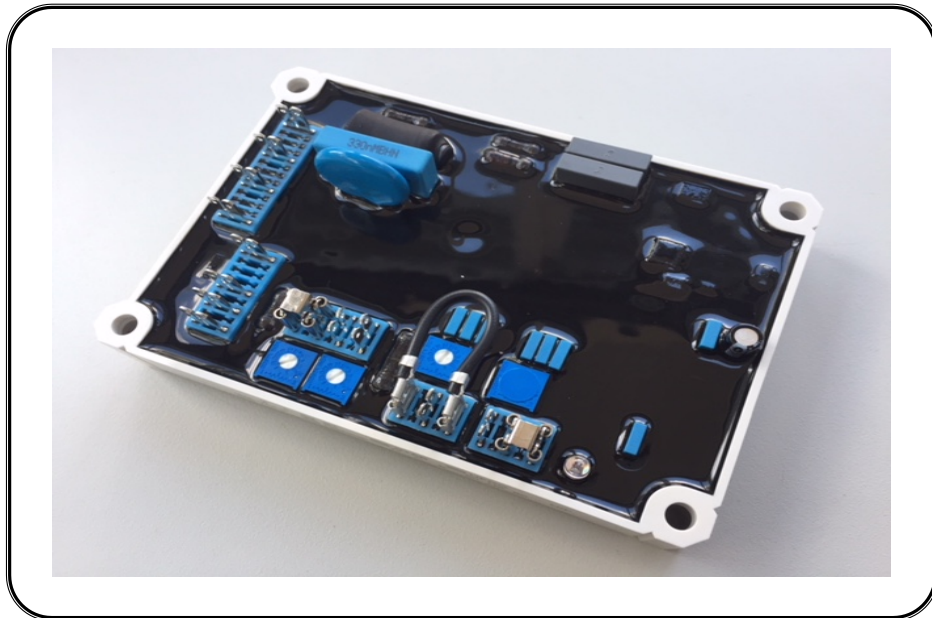


# EA480

## ***Generator Automatic Voltage Regulator User Manual***



Analog, single-phase sensing · Excitation output 5 Amp with half-wave rectifier

For use with self-excited, brushless generators

Compatible with Newage Stamford AS480\*

Supports connection with Stamford Excitation Boost System (EBS)

\*Note : The manufacturer name and number are used for reference purpose only and do not imply that any part is the product of these manufacturer.



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ISO 9001  
**ETC**

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## SECTION 1 : SPECIFICATION

### Voltage Sensing / Power Input (7,8) Average Reading

Voltage 60 – 300 Vac, 1 phase 2 wire  
Frequency 50/60 Hz (Jumper Selected)

### Excitation Output (F1 ∙ F2)

110V 1 phase Continuous 31 Vdc 5A  
Max. 45 Vdc 7.5A 10 secs.  
220V 1 phase Continuous 63 Vdc 5A  
Max. 90 Vdc 7.5A 10 secs.

Note : If AVR is mounted externally to alternator

continuous current should be reduced by 20%

Resistance Min. 6 ohms, Max. 100 ohm @110V  
Resistance Min. 13 ohms, Max. 100 ohm @220V

### External Voltage Adjustment (1 ∙ 2)

Max. +/- 10% @ 1K ohm 1 watt potentiometer  
Fixed 7.5K ohm enables 110Vac sensing

### Quadrature Droop Input (S1 ∙ S2)

Input resistance 10 ohms  
Sensitivity 0.07A for 5% voltage drop (PF= 0)  
Max. Input 0.33A

### Build up Voltage

Residual voltage at AVR terminals > 4 VAC @25 Hz

### Soft Start Ramp Time

3 seconds +/- 10%

### Voltage Regulation

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

### Response Time

Less than 20 ms

### EMI

Built-in Harmonic suppression

### Static Power Dissipation

Max. 4 watts

### Under Frequency Protection (knee point factory preset)

45 Hz for 50 Hz systems  
55 Hz for 60 Hz systems

### Over Excitation Protection

Excitation Voltage 70 Vdc +/- 10 %  
Time Delay 10 – 15 seconds

### Voltage Thermal Drift

Less than 3% from -40 to +70°C

### Environment

Operating Temperature -40 to +70 °C  
Storage Temperature -40 to +85 °C  
Relative Humidity less than 95%  
Vibration 5.5Gs @ 60Hz

### Dimensions

130.0 (L) x 90.0 (W) x 39.0 (H) mm  
5.12 (L) x 3.54 (W) x 1.54 (H) inch

### Weight

260 g +/- 2%  
0.573 lb +/- 2%

## SECTION 2 : APPEARANCE / DIMENSIONS / INSTALLATION DRAWING

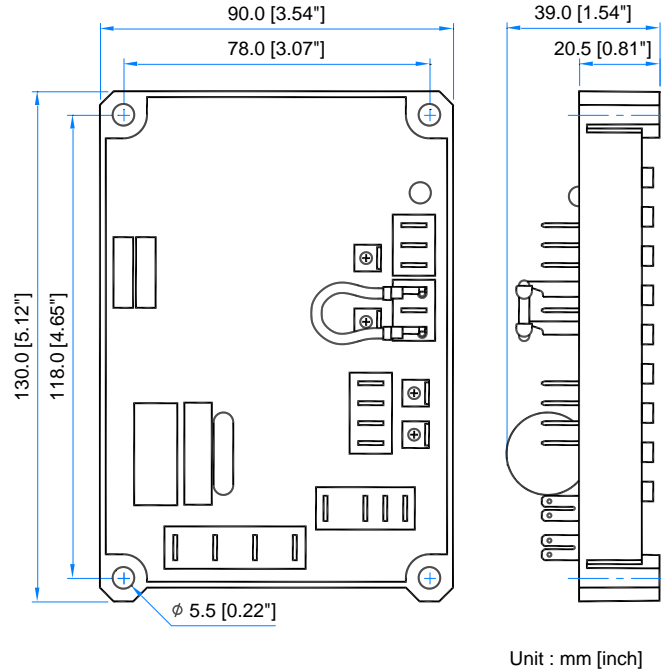


Fig. 1 Outline Dr

## SECTION 3 : LED INDICATORS AND POTENTIOMETER ADJUSTMENTS

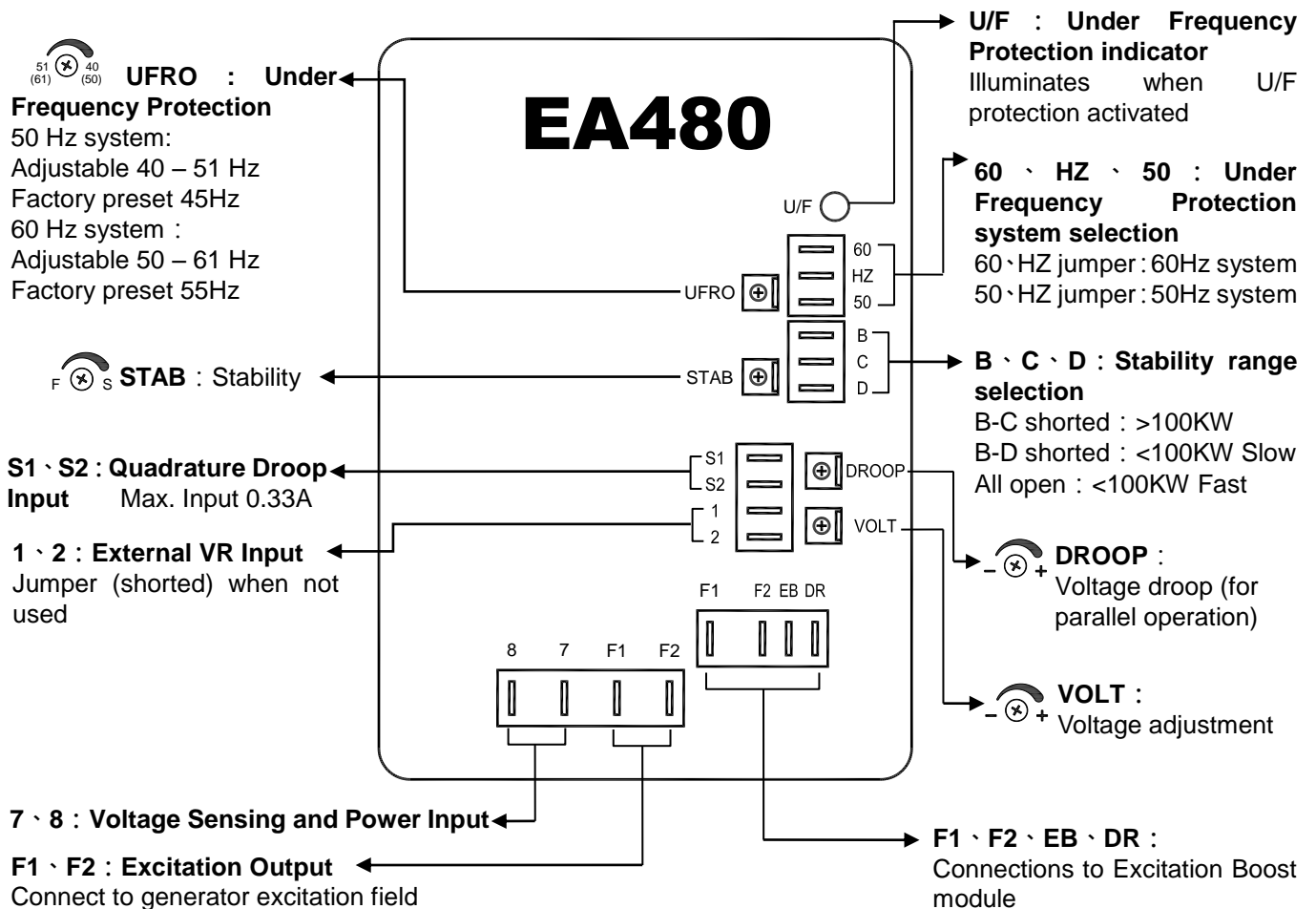


Fig. 2

**SECTION 4: CONNECTION DIAGRAMS**

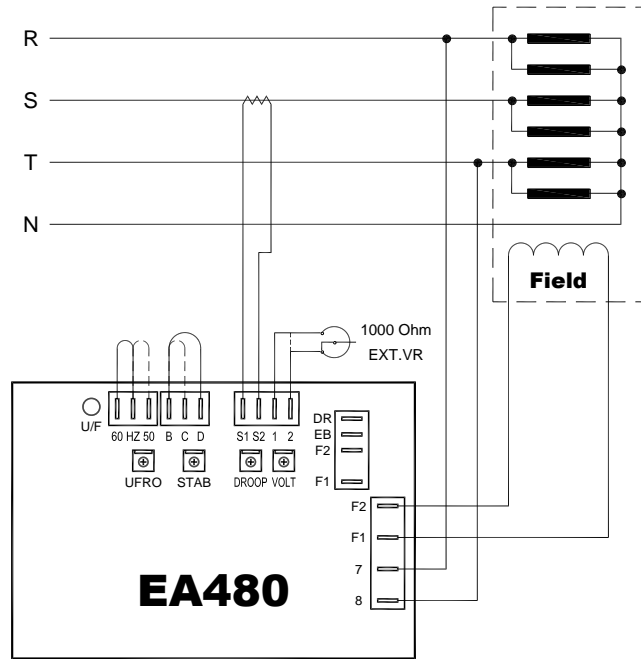


Fig. 3 220 Vac

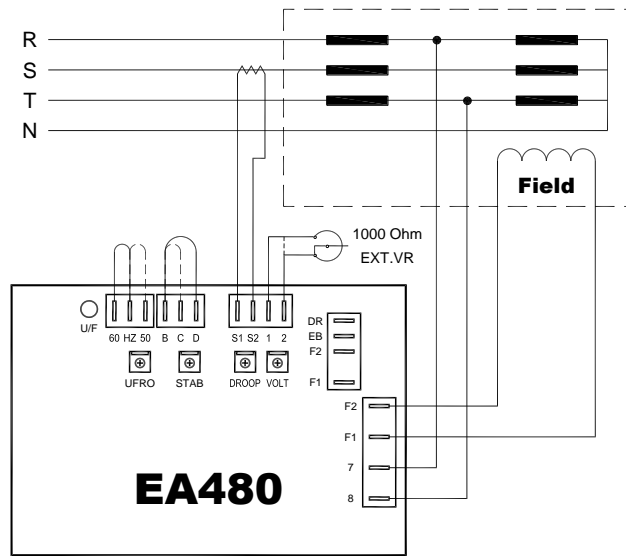


Fig. 4 380/440 Vac

**Warning!!**

1. Before using a Megger or Withstand Voltage Tester remove the wires connecting the AVR to prevent high voltage damage to the AVR.
2. Improper setting of under-frequency protection could cause the generator output voltage to drop or become unstable with changes in load. Avoid making any changes to the U/F setting unless necessary.

- ※ Only use replacement fuses specified in this user manual.
- ※ Appearance and specifications of products are subject to change for improvement without prior notice. Thank you for your understanding.