Section 1. Specifications

Sensing Input (A to **C)Average Reading**

Voltage 170 – 520 Vac Single-phase, 2-wire
220/440 Vac (DIP switch setting)
170 – 260 Vac @ 220 Vac 340 – 520 Vac @ 440 Vac

Frequency 50/60 Hz (DIP switch setting)

Input Power(B to **C)**

Voltage 100 – 300 Vac Single-phase, 2-wire
Frequency 40 – 60 Hz

Excitation Output (F+ toF-)

220V Single phase Continuous 63Vdc 5A
Intermittent 90Vdc 7A 10Sec
Resistance Min.15Ω , Max.100Ω
Fuse specification5 x 20mm S505-5A slow blow

Voltage Regulation

< +/- 0.5% (with 4% engine governing)

Response Time

20ms

Voltage Build-up

Residual voltage at AVR terminal > 5 VAC

Over Excitation Voltage Protection

>35% Input Power Voltage, Delay 5 seconds. This function can be turned off.

External Voltage Adjustment (EXT.VR)

+/- 3.5% 1 KΩ 1 watt potentiometer

Soft Start Ramp Time

3 seconds +/- 10%

Static Power Dissipation

8 watts **EMI**

Suppression

Internal electromagnetic interference filtering

Under Frequency Protection (Factory Setting)

At 50 Hz - knee point set at 45 Hz
At 60 Hz - knee point set at 55 Hz

Voltage Thermal Drift

-40°C to +70 °C，< 3%

Low Frequency Knee Point Thermal Drift

-40°C to +70° C，< +/- 0.1 Hz

Operating Environment

Operating Temperature -40°C to +70 C
Storage Temperature -40°C to +85 C
Relative Humidity < 95%
Vibration 5g @ 60 Hz

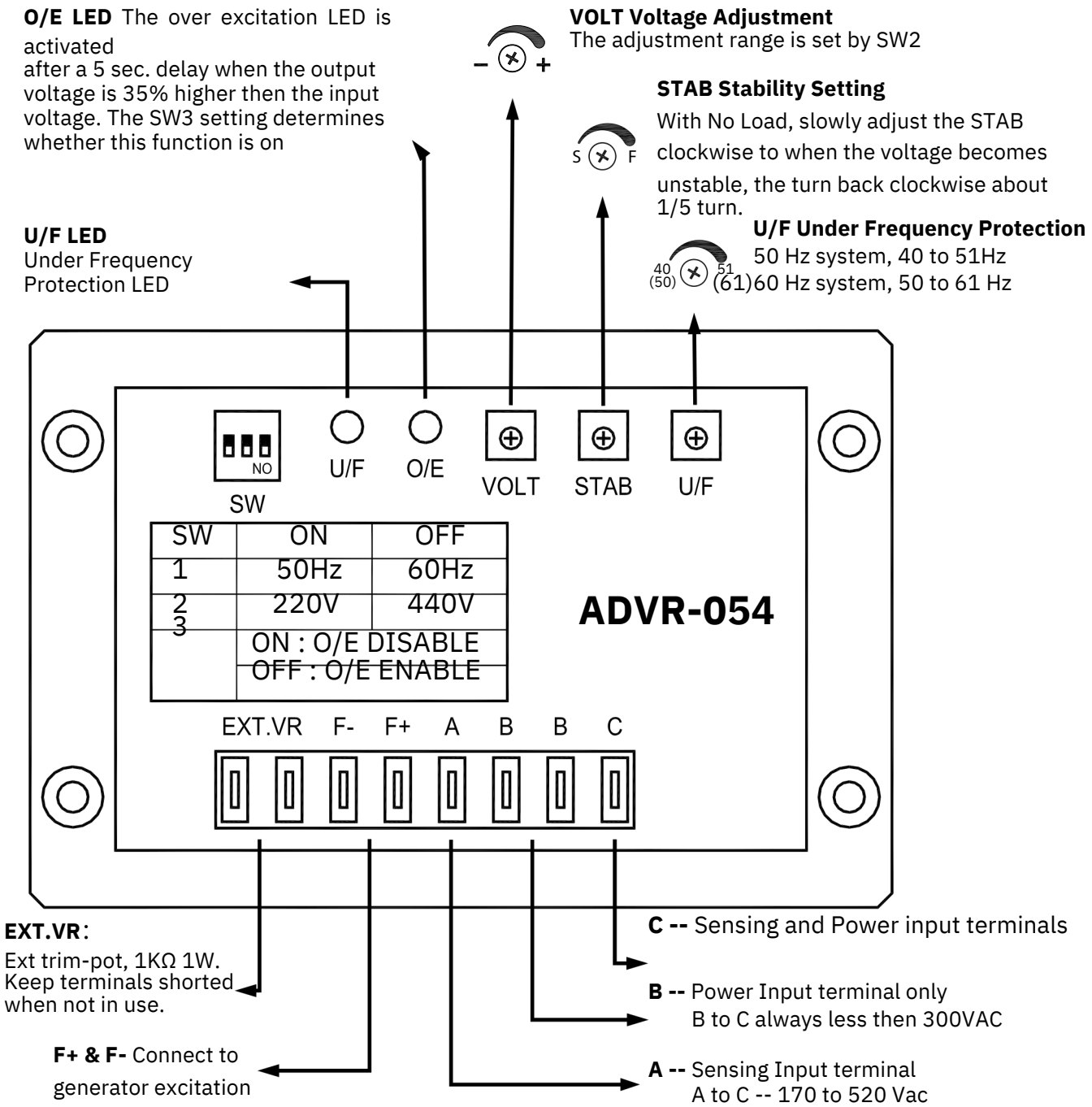
Dimensions

121.0 (L) x 81.0 (W) x 44.5 (H) mm
4.76” (L) x 3.19” (W) x 1.75” (H) inch

Weight

270 g +/- 2%

Section 3. DIP Switch settings, Indicator Lights and Adjustments



Adjustments after generator is started

1. First, set VOLT and STAB trim-pots completely counterclockwise, set the engine governor to 50 or 60 Hz. Now slowly turn the VOLT trim-pot clockwise to increase the working voltage (If you have an external Trim-pot set it to center position). Keep EXT. VR shorted when not in use.
2. Next, slowly adjusting the STAB trim-pot (clockwise) this changes the response time of the AVR to changing loads. If the setting is too high the voltage is unstable but if set too low the response is sluggish. We recommend using an analog DC voltage meter on F, F+ and adjust STAB for the lowest amount of voltage fluctuation. (needle
3. movement)

   Last, setting the Under Frequency (U/F) trim-pot. (The U/F is Factory preset and needs no adjustments) put in rare applications --- Use the U/F LED as a guide. When this LED is ON the circuit is operational turning off the regulators output. To recalibrate, adjust the generator speed to the new U/F kneel point, usually 5 Hz under rated speed (Hz) then set the U/F trim-pot to the point at which the U/F LED just changes from off to on

Section 7. Connection Diagrams

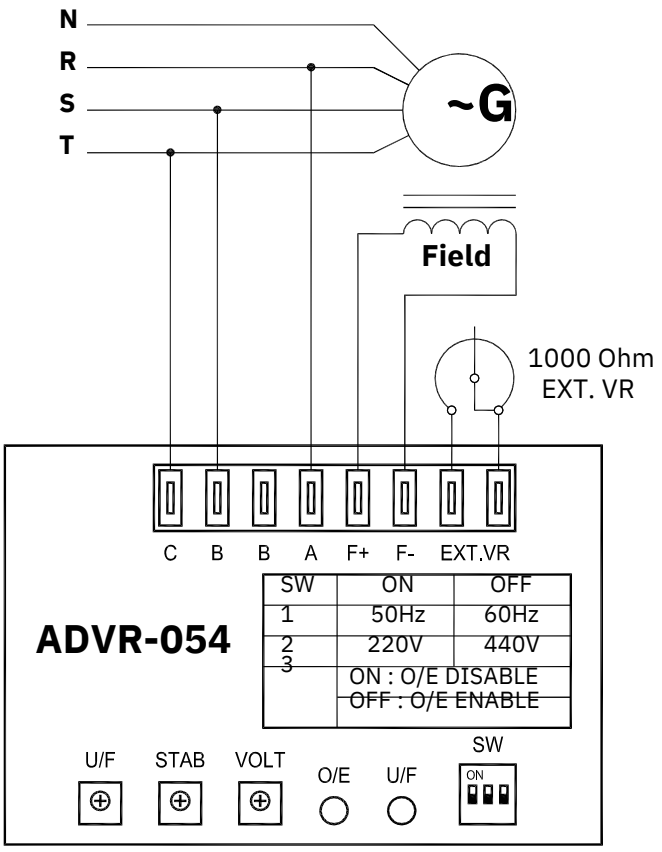


Fig 4 208, 220V sensing connection

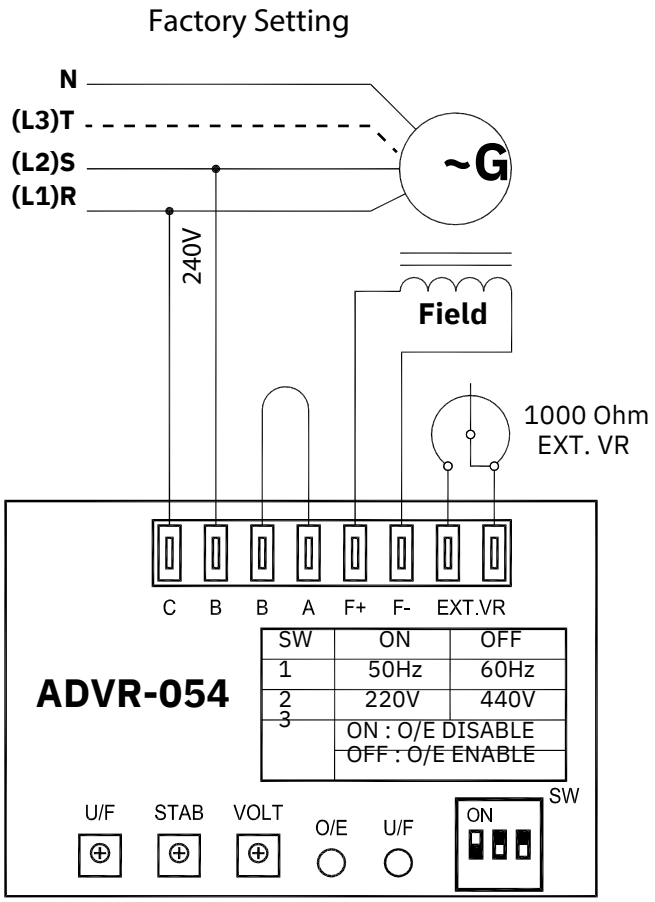


Fig 5 220, 240V sensing

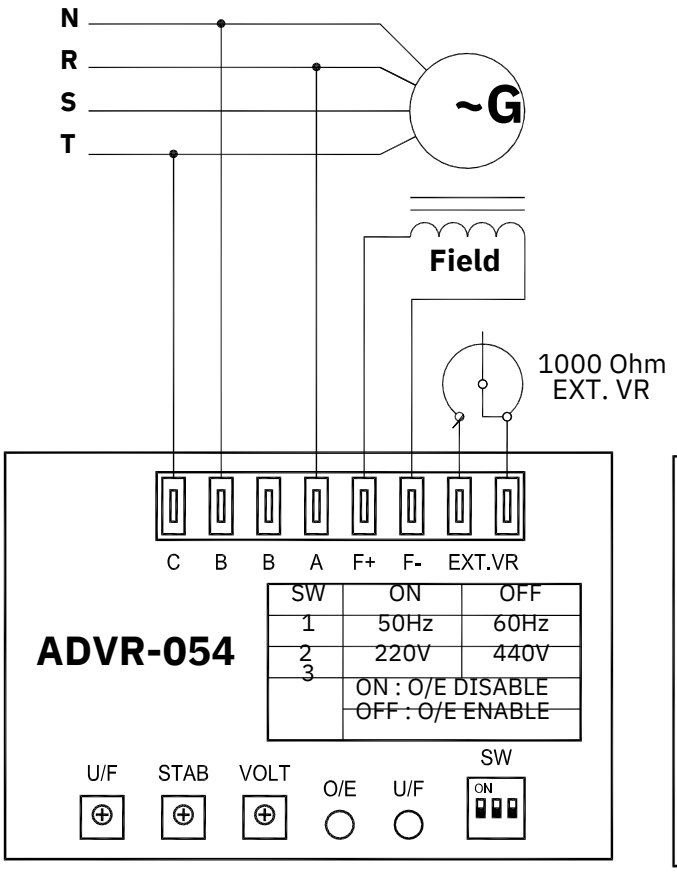


Fig 6 380, 440, 480V sensing

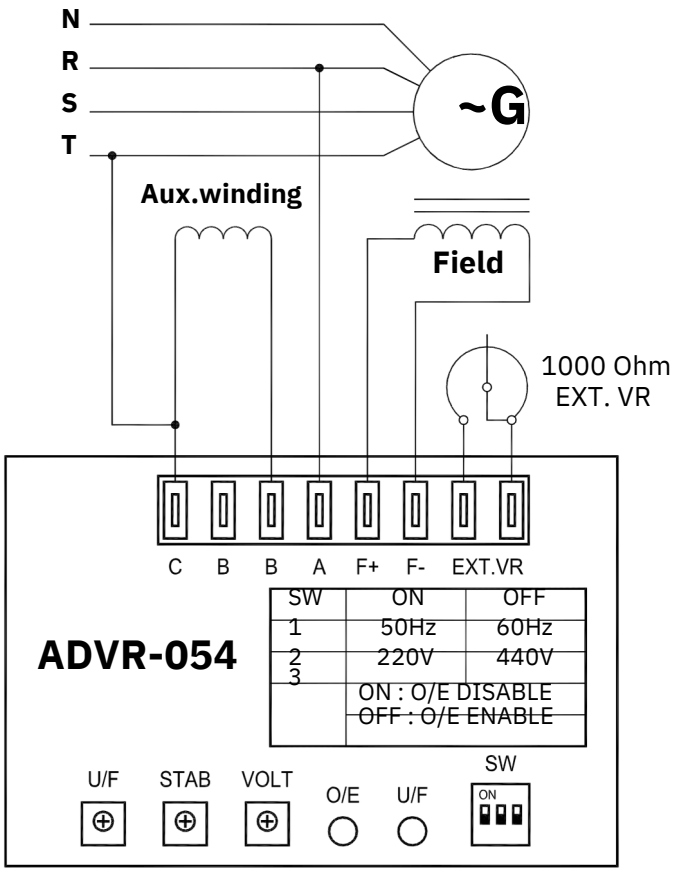


Fig. 7 Using Auxiliary Winding