



SPECIFICATIONS & TECHNICAL DETAILS OF AVR SPS-1008

info@spsindia.biz

WARNING: To prevent personal injury or equipment damage only qualified technician / operator should install, operate or service this device

CAUTION: While using meager & high potential equipment, disconnect all connections of AVR. Incorrect use of such equipments could damage components of AVR

VOLT:

Rotate these pot clockwise to increase AC terminal voltage and anticlockwise to decrease AC terminal voltage.

STAB:

Stability potentiometer is factory set such that optimum response of voltage recovery is achieved during sudden load changes. In some cases in order to release burden on engine it is required to sluggish the recovery time of voltage, therefore to increase the response time STAB potentiometer is carefully rotated anti clock wise direction such that response time will increase resulting larger dip in terminal voltage during sudden load. Kindly note that by excessively rotating STAB potentiometer to clock wise direction at one stage voltage will become unstable and cause hunting. Again by gradually rotating the STAB pot to anti clock wise direction will stabilize the generator voltage. **(It is advisable that only technically qualified person should adjust these pot.)**

UFRO:

The under frequency roll off (UFRO) is factory set at 47 Hz for 50 Hz generator. For 60 Hz generator by removing 50/60 Hz link UFRO will set to 57 Hz. In case if it is required to set UFRO level to any other frequency than it is advisable to adjust UFRO potentiometer from 45 Hz to 59 Hz depending upon whether it is 50 or 60 Hz alternator. Rotating UFRO potentiometer clock wise direction will set UFRO level in increasing frequency direction and rotating in anti clock wise direction will set to decreasing frequency. UFRO activation is indicated by UF LED.

OE:

Excitation field voltage exceeding it specified limit indirectly indicates alternator over load. AVR has in built accurate DC voltage sensing circuitry to protect alternator windings from over load. DC field current monitored by AVR circuitry will cut off field supply after 20-25 seconds when field current exceeds preset value. The over excitation trip level is factory set to maximum. It will be required by user to set trip level as specified by excitation voltage on alternator name plate. The OE potentiometer is factory set to fully clock wise direction. By rotating the potentiometer to anti clock wise direction will set DC voltage from maximum downwards to 0 V DC. Vice versa rotating OE potentiometer to clock wise direction will set trip level from 0 V DC upwards to maximum. In order to set tripping level load the generator to specified load and then rotate OE potentiometer anti clock wise direction till OE LED turns ON. Once OE LED turns ON the timer will be activated and after 20-25 seconds field supply will be cut off.

REMOTE VOLTAGE ADJUST:

There is a 5 pole terminal located on AVR, terminal 1 & 2 is linked with wire, these wire can be removed and a 1 K Ohms . 1 W potentiometer can be connected to adjust alternator voltage from remote location. It is recommended to use shielded cable to connect the potentiometer.

220 V Sensing:

As indicated in diagram a link is connected between 1 & 2 to change sensing from 415 V to 220 V along with input terminal N is linked to W to configure AVR for 220 V output 3 Phase alternator.

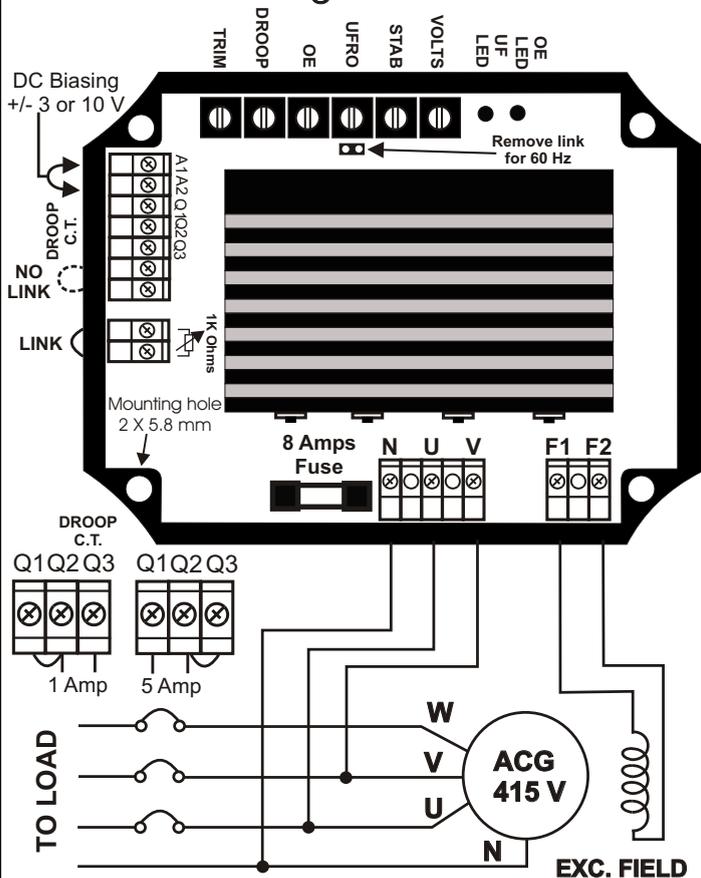
DROOP:

If it is required to synchronize more than one generator, so that system capacity can be increased, it is necessary that power sharing between all generators is equal. Quadrature droop method is used to control reactive current of generators. A current transformer with secondary current of 5 A or 1A at full load of generator is connected third phase of generator which is not used for sensing of AVR. The direction of secondary current should be such that droop characteristics is achieved. DROOP characteristics of +/- 10 % can be achieved at 5 Amps or 1 Amps as indicated in diagram of terminal marked as Q1, Q2 and Q3.

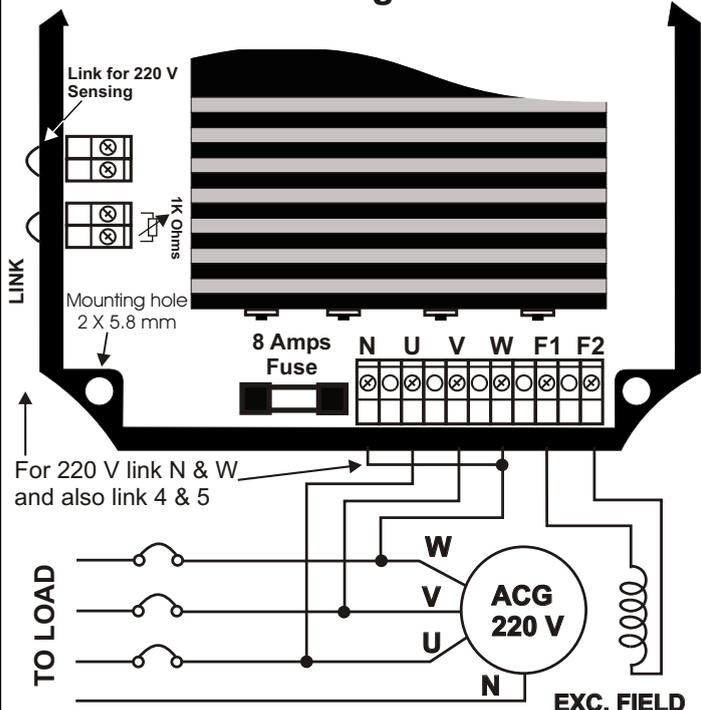
Trim:

DC output of +/- 3 V to 10 DC from any type of isolated controller can be input A1 & A2 to set parameters of alternator. The required % of analogue input setting can be done through in built TRIM potentiometer.

Connection Diagram for 415 V



Connection Diagram for 220 V



SPECIFICATIONS:

INPUT VOLTAGE	2 PHASE (415 V) + N OR Isolated Auxiliary Input (150 to 220 VAC)
SENSING VOLTAGE	415 V AC
OUTPUT EXCI. VOLTAGE	100 V DC
OUTPUT EXCI. CURRENT	8 A DC. (15A DC FOR 15 SECONDS)
FIELD OHMS	MINIMUM 12 OHMS
INPUT FREQUENCY	50 / 60 Hz (Remove link for 60 Hz)
RESIDUAL BUILD UP	5 V AC AT 50 Hz.
VOLTAGE REGULATION	+/- 1 %. Thermal drift 0.04 %/per deg C
UNDER FREQUENCY (UFRO / UF LED)	FACTORY SETTING 47 Hz, Adjustable UFRO Potentiometer INDICATION BY UF - LED
OVER EXCITATION VOLTAGE TRIP (OE SET / OE LED)	10- 25 SECONDS DELAY TIMER. ADJUSTABLE POT RANGE 0 - 100 V DC. INDICATION BY OE - LED (Factory set to maximum)
VIBRATION	20-100Hz 50 mm/sec 100Hz - 2 KHz 3.3g
OPERATING TEMPERATURE	-10 TO +70 °C
STORAGE TEMPERATURE	-10 TO +80 °C
RELATIVE HUMIDITY	0 TO +70 °C : 95 %
EXTERNAL FUSE	8 AMPS
DIMENSIONS (L X B X H)	150 X 115 X 42 mm
WEIGHT	475 gms

NOTE: Continuous development of our products entitles us to change specifications & other details without notice. Please contact factory for latest information (info@spsindia.biz)



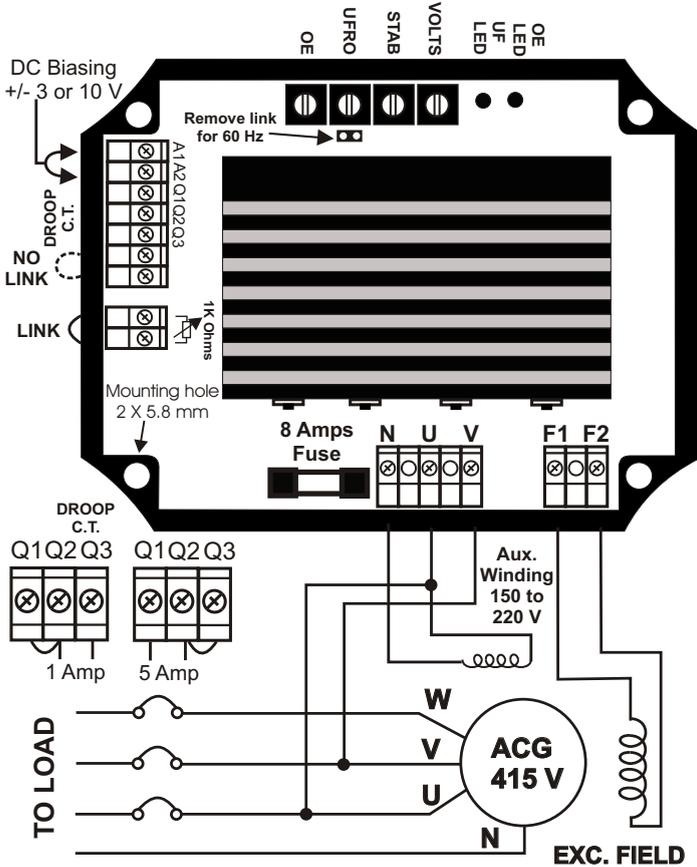
CONNECTING AVR SPS-1008 TO ISOLATED AUXILIARY WINDING

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Trim:

DC output of +/-3 to 10 V from any type of isolated controller can be input A1 & A2 to set parameters of alternator. The required % of analogue input setting can be done through in built TRIM potentiometer.

SPECIFICATIONS:

AC Voltage Variation in % with respect to DC Biasing Voltage. (measured at 415 V AC as reference)		
DC Voltage	V. AC Change in %	TRIM Potentiometer Position
0 - 3V +/- 3 V	6 % +/- 6%	Fully Clockwise
0 - 3V +/- 3 V	3 % +/- 3%	Half Position
0 - 5V +/- 5V	12 % +/- 12 %	Fully Clockwise
0 - 5V +/- 5	6 % +/- 6 %	Half Position
0 - 10V +/- 10 V	24 % +/- 24%	Fully Clockwise
0 - 10V +/- 10V	12 % +/- 12 %	Half Position

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