

BN236 INSTRUCTION

BN236 is a high-performance generator voltage regulator. With full wave rectifier output and three-phase voltage sensing technology, it improves the starting capacity of generator with motor load by 1.3 times, and solves the power safety problem caused by three-phase load imbalance, which is 4 times faster than the recovery time of AVR products in the market when the load suddenly changes. It not only improves the voltage stability, but also improves the voltage stability. It reduces the damage of generator voltage fluctuation to sensitive equipment.

Product Characteristics:

- ❖ The three-phase voltage sensing method is adopted to avoid the voltage imbalance caused by the three-phase load imbalance of the common AVR, which improves the safety and reliability of power consumption
- ❖ Full wave rectifier PWM modulation output and 4 pulses output per week (1 pulse output in general half wave rectifier) are adopted to effectively control the voltage drop when the motor starts, the recovery time is less than 100ms, and the voltage rise when the load is suddenly unloaded is also effectively suppressed, and the recovery time is less than 80ms.
- ❖ Wherein, built-in over excitation current protection, factory set at 4.5A, and equipped with 8A slow fuse. When the excitation output current exceeds 4.5A and lasts for 10s, the overexcitation protection will be triggered, and the excitation current will immediately drop and be locked at 0.2-0.3A, so that most generators can maintain the generation voltage at 80-160VAC. When the AVR control circuit fails, the overexcitation protection function cannot be started normally, and the current continues to exceed 8A @ 10s, the hot-melt fuse will be fused to prevent damage to the generator winding.
- ❖ There is low-frequency protection function, the factory preset inflection point frequency is 46hz, and the voltage drop rate is 12V / Hz.
- ❖ There is auxiliary voltage regulation input, which can be used as reactive power regulation for parallel operation between generator sets.

BN236 Performance Parameter:

Power Input:	165~260VAC	Over Excitation:	4.5A @10sec
Sensing Input:	3P 220VAC @BN236L 3P 380VAC @BN236H	Under Freq. :	50HZ Set Point 46HZ 60HZ Set Point 55HZ
Excitation Out:	180VDC @240VAC Continuously 3.8A Intermittent 6A @10sec.	Under Freq. Slope:	-5% /HZ
Out Impedance:	min. 10Ω	External Adj:	12% @1KΩ/1W Potentiometer
Regulation:	±0.5%	Voltage Build Up:	3sec(Built in slow start)
Response Time:	<100ms@0-90VDC	EMI Inhibition:	Built in EMI suppression circuit
Thermal Drift:	0.02%/°C	Power Consumption:	Max. 15W
Analogue Input:	10VDC	Operation Temp.:	-40~70°C
ANA. Sensitivity:	0-5%/V Adjustable	Environmental Vibration:	3.3g @200HZ~2KHZ
		Outline Size:	90mm*160mm
		Weight:	203g ±5g

Adjustment Instruction:

Before starting the generator, confirm whether the voltage of AVR power input (BN236H:W/N or BN236L:V/W) is If it is less than 260VAC, check whether the positive and negative pole of excitation are connected correctly (if it is wrong, voltage build-up failure may occur), check whether the input voltage of voltage sensing conforms to the corresponding model (BN236L/BN236H). If there is an external voltage trimming potentiometer connected, please adjust the potentiometer to the middle in advance, in addition, check whether the frequency selection is correct, and finally adjust the VOLT and TRIM on the board to the minimum counterclockwise, STAB to middle.

After starting the generator, first adjust the VOLT to make the voltage near the rated value, and then check whether there is swing of the generating voltage (more obvious with the pointer table). If it is a fast swing, adjust the STAB clockwise to not swing and adjust it a little more. If it is a slow swing, adjust the STAB counterclockwise to not swing and adjust it a little more, and finally fine adjust the VOLT to the rated voltage.

If there is voltage establishment failure (remanence voltage is lower than 5VAC), the generator needs to be magnetized. The specific operation needs to be carried out by professionals. Please pay attention to the safety risks.

******* Matters Needing Attention *******

The voltage range of the voltage sensing input must conform to the corresponding model (BN236L is suitable for three-phase 190-235VAC, BN236H is suitable for three-phase 370-430VAC). The voltage of the power input must be < 265VAC. Under normal circumstances, the UFRO is factory set and does not need to be adjusted again.

Please refer to the following table for other problems:

Fault Situation	Reason	Countermeasures
No Voltage Output	Generator speed too low	Refer to generator manual
	Remanence voltage too low	Professionals for magnetization
	V W N F+ F- The line is not connected properly	Refer diagram 2 or 3
	Poor generator	Refer to generator manual
Voltage Too low	U V W Whether the input voltage range is appropriate	Refer diagram 2 or 3
	External VR potentiometer is not properly connected or poor	Check VR potentiometer and connecting lines
	Frequency too low	Refer to generator manual
	Generator excitation parameter mismatch	Refer to generator manual

Fuse blown	Generator excitation current is too large or the line connection is wrong	Refer to generator manual Refer diagram 2 or 3
Voltage Too high	U V W Whether the input voltage range is appropriate	Refer diagram 2 or 3
Voltage Unstable	STAB Improper adjustment	Refer to the previous section "adjustment instructions"
Voltage rise more than 5% (6-15VAC) with load	High power inverter or rectifier in the load	Reactor needs to be added before the converter to offset the leading reactive power

Product installation and wiring diagram :

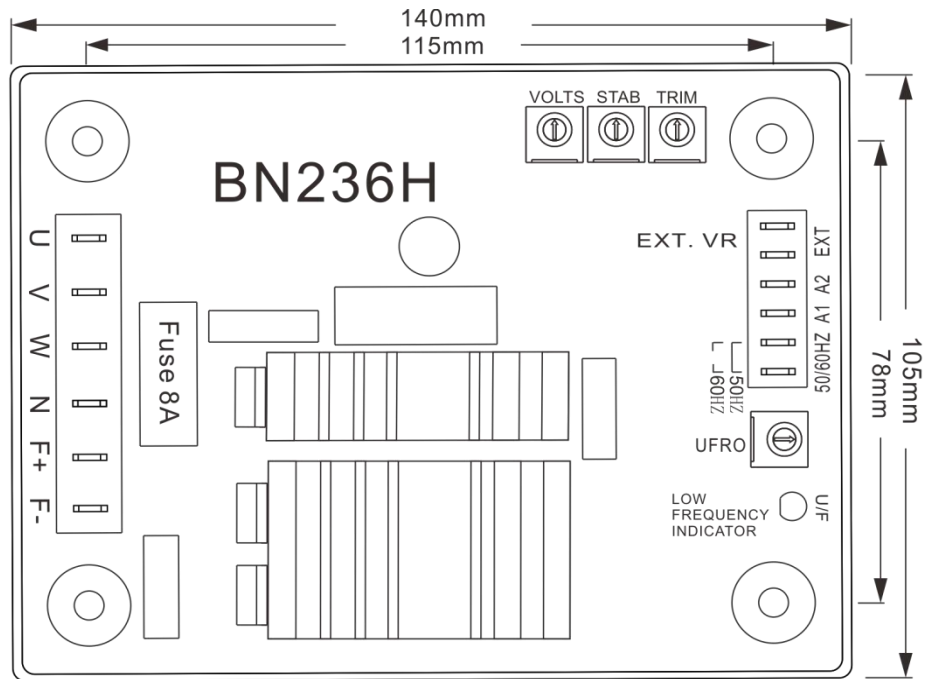


Figure1:Dimensional drawing

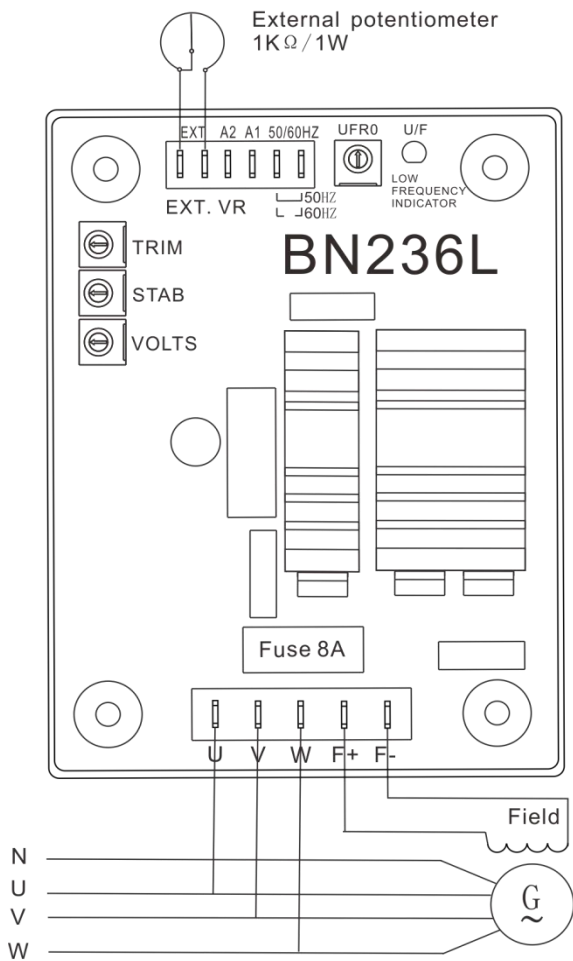


Figure2:3Phase 220V diagram of power supply

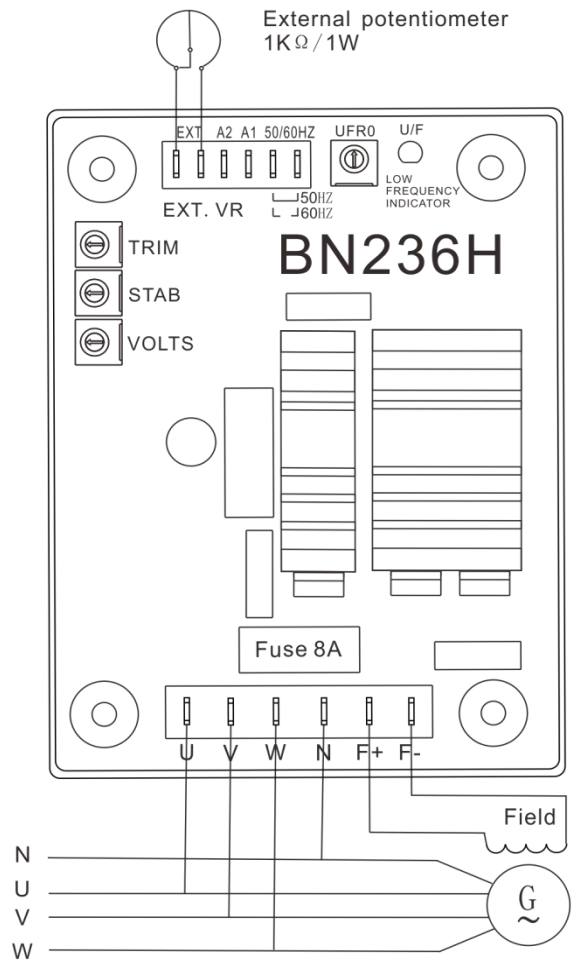


Figure3:3Phase 380V diagram of power supply