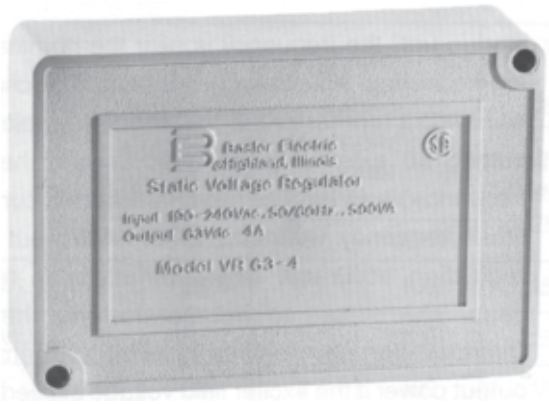

VR63-4/UL, VR63-4A/UL VOLTAGE REGULATORS

The VR63-4/UL and VR63-4A/UL Static Voltage Regulators are small, ruggedly constructed regulators designed for brushless ac generators. Combining proven solid-state technology with rugged packaging, the VR63-4/UL and VR63-4A/UL provide accurate and reliable regulation under the most severe environmental conditions. The smallest regulators produced by Basler Electric, the VR63-4/UL and VR63-4A/UL are heavy-weights with EMI suppression, frequency compensation, solid state voltage build-up and overexcitation shutdown circuitry as standard.

FEATURES

- Integrated circuitry for compact size, simplicity, high reliability.
- Extremely rugged.
- Exciter field current 4A continuous, 7A forcing.
- Regulation accuracy better than ±1.0% no load to full load.
- Fast response.
- Frequency compensation.
- Overexcitation shutdown.
- EMI suppression.
- Available from stock.
- CSA certified/UL recognized (VR63-4B is CSA certified only).

ADDITIONAL INFORMATION

INSTRUCTION MANUAL

Request publication 916680099X

Basler Electric
P. O. BOX 269 HIGHLAND, ILLINOIS 62249, U.S.A. PHONE 618-654-2341 FAX 618-654-2351

SVB-6
11-95

FUNCTIONAL DESCRIPTION

The VR63-4/UL and VR63-4A/UL voltage regulators provide regulation for 50/60 Hz brushless generators. The regulator senses generator output voltage (VR63-4/UL:190 to 240 Vac, VR63-4A/UL:100 to 120 Vac) to control the amount of power applied to the exciter field of the generator. During start-up, the solid-state voltage build-up circuit operates from residual voltages as low as 10 Vac from the generator output. An internal voltage adjust rheostat provides adjustment of the generator voltage (VR63-4/UL: 171 to 264 volts, VR63-4A/UL: 90 to 132 Vac). A remote voltage adjust rheostat may be connected to the unit.

The frequency compensation characteristic (See Figure 1) of the regulator restrains voltage recovery during startup until the frequency is near the nominal operating frequency. A frequency compensation characteristic having a “corner frequency” of 55 Hz is selectable by cutting an external jumper; otherwise, the “corner frequency” is 45 Hz. The two characteristic curves allow small frequency variations to occur without affecting regulation accuracy; larger variations in frequency cause the output to decrease along the curves. Overexcitation shutdown is included that removes the output power if the exciter field voltage exceeds 100 ±5 Vdc after a time delay. If the voltage exceeds 135 ±5 Vdc, the power is removed instantaneously. Two seconds after removing power, the regulator shutdown circuit resets.

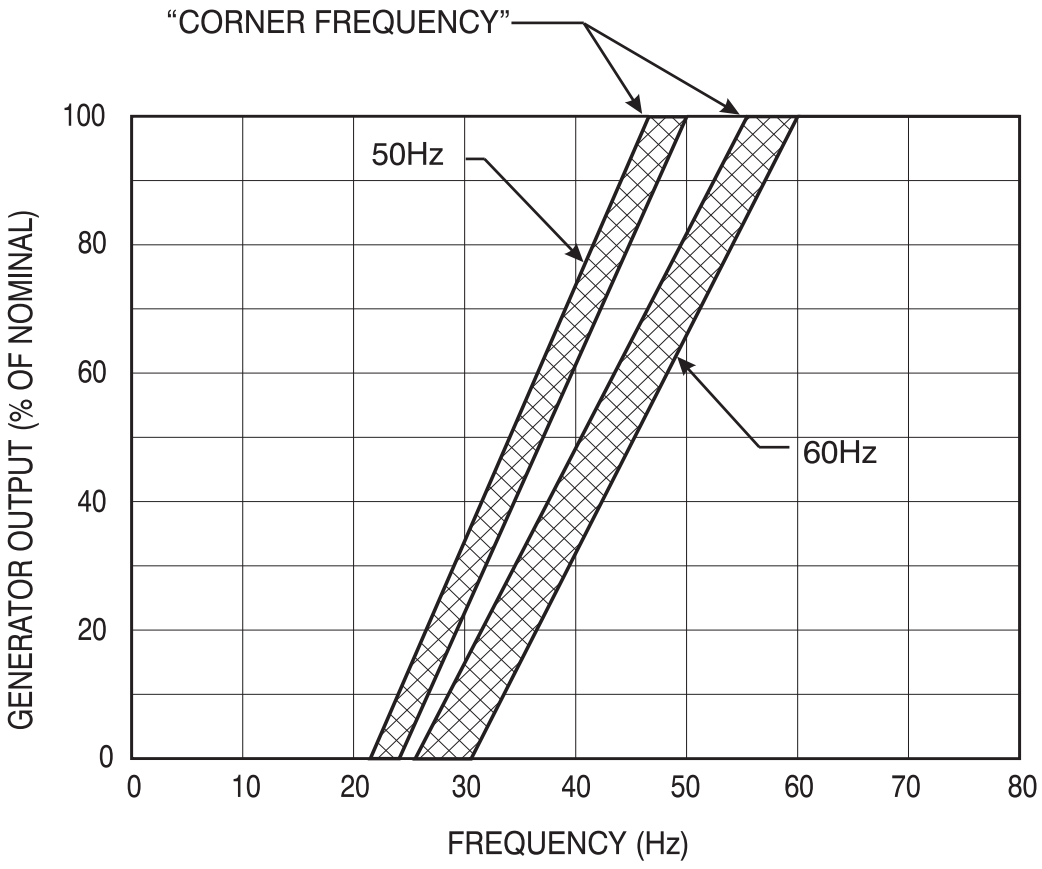

Figure 1 - Frequency Compensation Characteristic

SPECIFICATIONS

	DC OUTPUT				EXCITER FIELD RESISTANCE		POWER INPUT		SENSING INPUT
	MAX. CONT.		MAX FORCING 1 MIN. (240 Vac Input)		MIN. OHMS @ 25˚C	MAX. OHMS @ 40˚C	SINGLE PHASE VOLTAGE RANGE	BURDEN	VOLTAGE ADJUST RANGE
	AMP	VOLT	AMP	VOLT					
VR63-4/UL	4	63	7	100	15	100	190-240 Vac	500VA	171-264 Vac
VR63-4A/UL	4	63	7	100	15	100	190-240 Vac	500VA	90-132 Vac
VR63-4B	4	63	7	100	15	100	190-240 Vac	500VA	171-264 Vac

REGULATION ACCURACY: Better than ±1.0% no load to full load.

RESPONSE TIME: Less than 1.5 cycle.

FREQUENCY COMPENSATION CHARACTERISTICS: (See Figure 1).

EMI SUPPRESSION: Internal electromagnetic interference filtering (EMI filter).

OVEREXCITATION SHUTDOWN: Output power is removed under the following conditions:

Exciter field voltage exceeds 100±5 Vdc after a time delay.

Exciter field voltage exceeds 135±5 Vdc, instantaneously.

(The regulator resets after two seconds as soon as the generator voltage is less than 6 Vac).

VOLTAGE BUILDUP: Internal provisions for automatic voltage buildup from generator residual voltages as low as 10 Vac.

POWER DISSIPATION: 8 Watts maximum.

OPERATING TEMPERATURE: -40°C (-40°F) to +60°C (+140°F).

STORAGE TEMPERATURE: -65°C (-85°F) to +85°C (+185°F).

VIBRATION: Withstands 5 to 26 Hz @ 1.3Gs; 26 to 50 Hz @ 0.036" double amplitude; 50 to 500 Hz @ 5Gs.

SHOCK: Withstands up to 15 Gs in each of three mutually perpendicular axes.

WEIGHT: 14 oz. (0.34 kg) net.

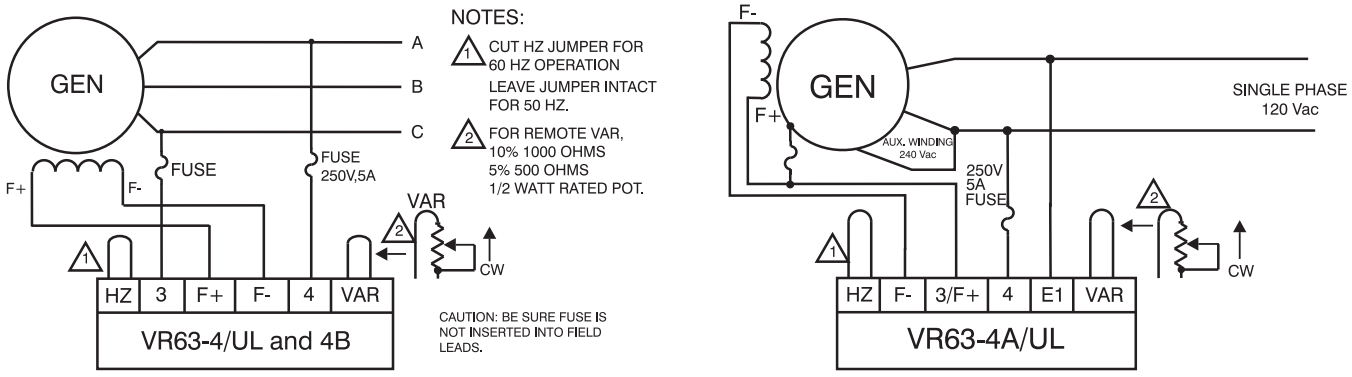

Figure 2 - Typical Interconnection Diagram

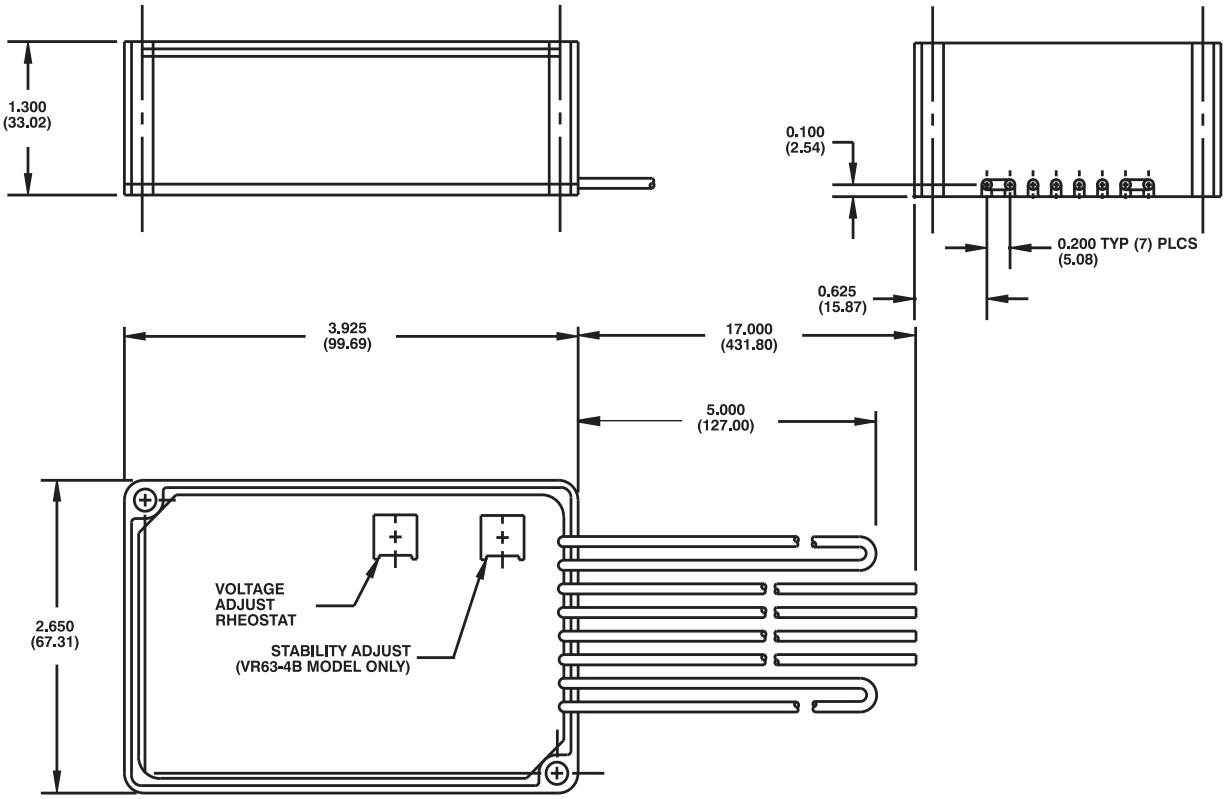

Figure 3 - Outline Drawing

NOTES:
1. Dimensions in parentheses are in millimeters.
2. All drawings and data subject to change without notice.

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