

## AVC63-7 VOLTAGE REGULATOR

Using enhanced technology, the AVC63-7 half wave voltage regulator is designed for use on 50/60 Hz brushless generators. This encapsulated regulator is small in size, ruggedly constructed, and incorporates solid state technology with frequency compensation, automatic voltage build-up, and parallel droop as standard.

### FEATURES

- Integrated circuitry for compact size, simplicity, high reliability.
- Extremely rugged.
- Exciter field current 7A continuous, 11.5A forcing.
- Regulation accuracy better than  $\pm .25\%$  no load to full load.
- Fast response.
- Frequency compensation.
- Overexcitation shutdown.
- Built-in parallel droop compensation.
- EMI suppression.
- Available from stock.
- CSA certified.
- Qualified to the requirements of:
  - IEEE C37.90.1 for Surge Withstand Capability.
  - ASTM B117-73, Method 711-1C, for Salt Fog.

### ADDITIONAL INFORMATION

INSTRUCTION MANUAL

Request Publication 9302800990

**FEATURES AND  
APPLICATIONS**  
this page

**DESCRIPTION AND  
SPECIFICATIONS**  
pages 2 & 3

**INTERCONNECT  
DRAWING**  
page 3

**DIMENSIONS**  
page 4

**B. Basler Electric**

ROUTE 143, BOX 269 HIGHLAND, ILLINOIS U.S.A. 62249 PHONE 618-654-2341 FAX 618-654-2351

SVP-1  
9-96

## DESCRIPTION

The AVC63-7 model of voltage regulator maintains generator line voltage on brushless generators from 100kW to over 500kW in size. The voltage regulator senses generator average voltage to maintain a precise regulation band within  $\pm .25$  percent. This is accomplished by converting a 240 Vac single phase power input to a controlled DC signal to the generator's exciter field. The solid-state voltage build-up circuit will enable automatic generator

line voltage build-up with a voltage input to the regulator of at least 6 Vac. Customer accessible stability, underfrequency and range adjusts enable fine tuning of the voltage regulator to the generator in use.

Figure 1 demonstrates the underfrequency characteristics of the voltage regulator during prime mover low speed conditions. Customer curve selection matches the voltage regulator to 50 or 60 Hz systems.

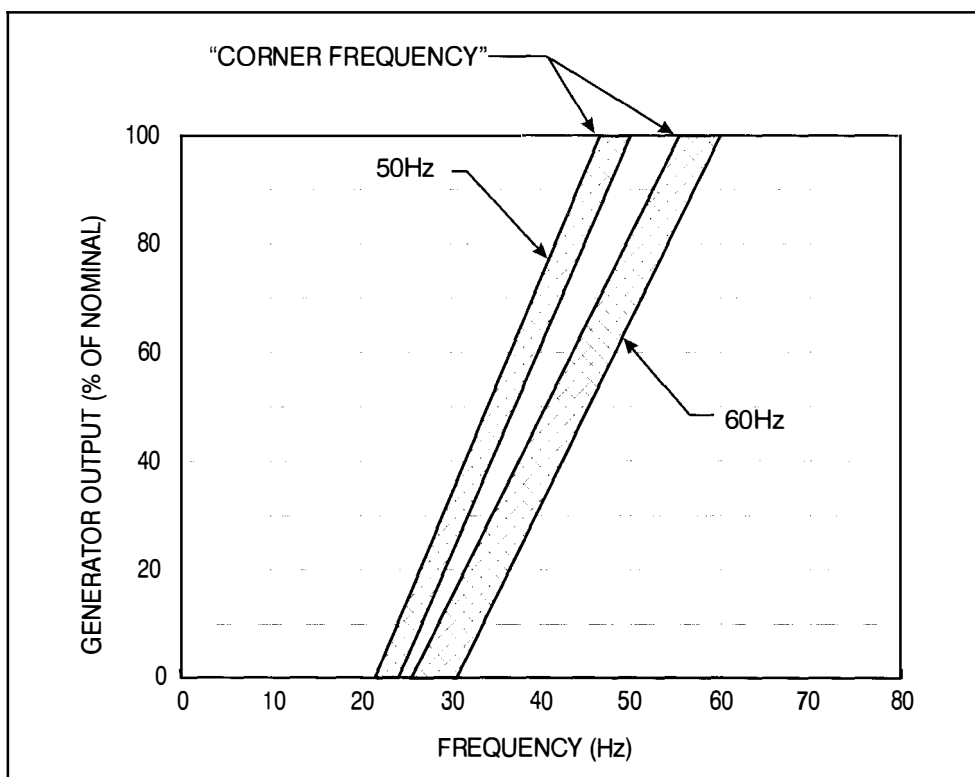


Figure 1 - Frequency Compensation Characteristic

## SPECIFICATIONS

DC OUTPUT				EXCITER FIELD RESISTANCE		POWER INPUT		SENSING INPUT	
MAX. CONT.		MAX. FORCING 10 SEC. (120 Vac INPUT)		MIN. OHMS @ 25°C	MAX. OHMS	SINGLE PHASE VOLTAGE RANGE	BURDEN	VOLTAGE ADJUST RANGE	BURDEN
AMP	VOLT	AMP	VOLT						
7	63	11.5	105	9.0	100	190-277Vac $\pm 10\%$	900VA	190-240Vac $\pm 10\%$	<5VA

## SPECIFICATIONS (continued)

**DC OUTPUT POWER:** 7 Adc at 63 Vdc maximum continuous, 11.5 Adc at 105 Vdc ten second forcing. (Forcing with 240 Vac nominal input).

**EXCITER FIELD DC RESISTANCE:** 9.0 ohms minimum; 100 ohms maximum.

**AC POWER INPUT:** Operating range: 190-277 Vac single phase, 50/60 Hz  $\pm 10\%$ . Burden 900VA.

**SENSING INPUT:** 190-240 Vac single phase, 50/60Hz  $\pm 10\%$ . Burden  $< 5\text{VA}$ .

**VOLTAGE ADJUST RANGE:** 170-264 Vac.

**REGULATION ACCURACY:** Better than  $\pm .25\%$  no load to full load.

**RESPONSE TIME:** Less than 1.5 cycles for  $\pm 5\%$  change in sensing voltage.

**EMI SUPPRESSION:** Internal electromagnetic interference filtering.

**PARALLEL COMPENSATION:** 5A input from a current transformer with 10VA burden @ 0.8PF.

**VOLTAGE BUILDUP:** Internal provisions for automatic voltage buildup from generator residual voltages as low as 6 Vac.

**TERMINATIONS:** 1/4 "Fast-On" Terminals.

**POWER DISSIPATION:** 35 Watts maximum.

**OPERATING TEMPERATURE:**  $-40^{\circ}\text{C}$  ( $-13^{\circ}\text{F}$ ) to  $+60^{\circ}\text{C}$  ( $+140^{\circ}\text{F}$ ).

**STORAGE TEMPERATURE:**  $-40^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$ ) to  $+85^{\circ}\text{C}$  ( $+185^{\circ}\text{F}$ ).

**VIBRATION:** Withstands 1.2 Gs at 5 to 26 Hz; 0.036" double amplitude at 27 to 52 Hz; and 5 Gs at 53 to 1000 Hz.

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

**WEIGHT:** 10 oz. (0.28 kg) Net.

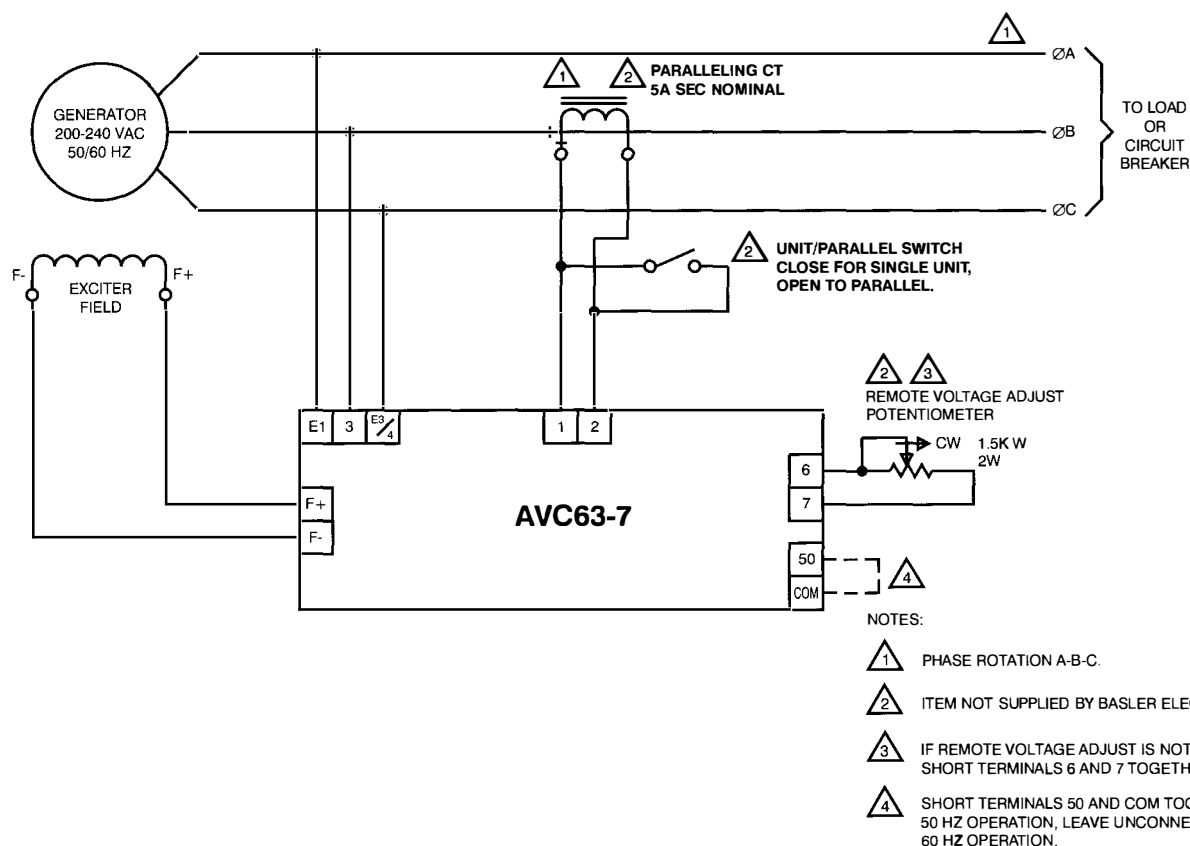
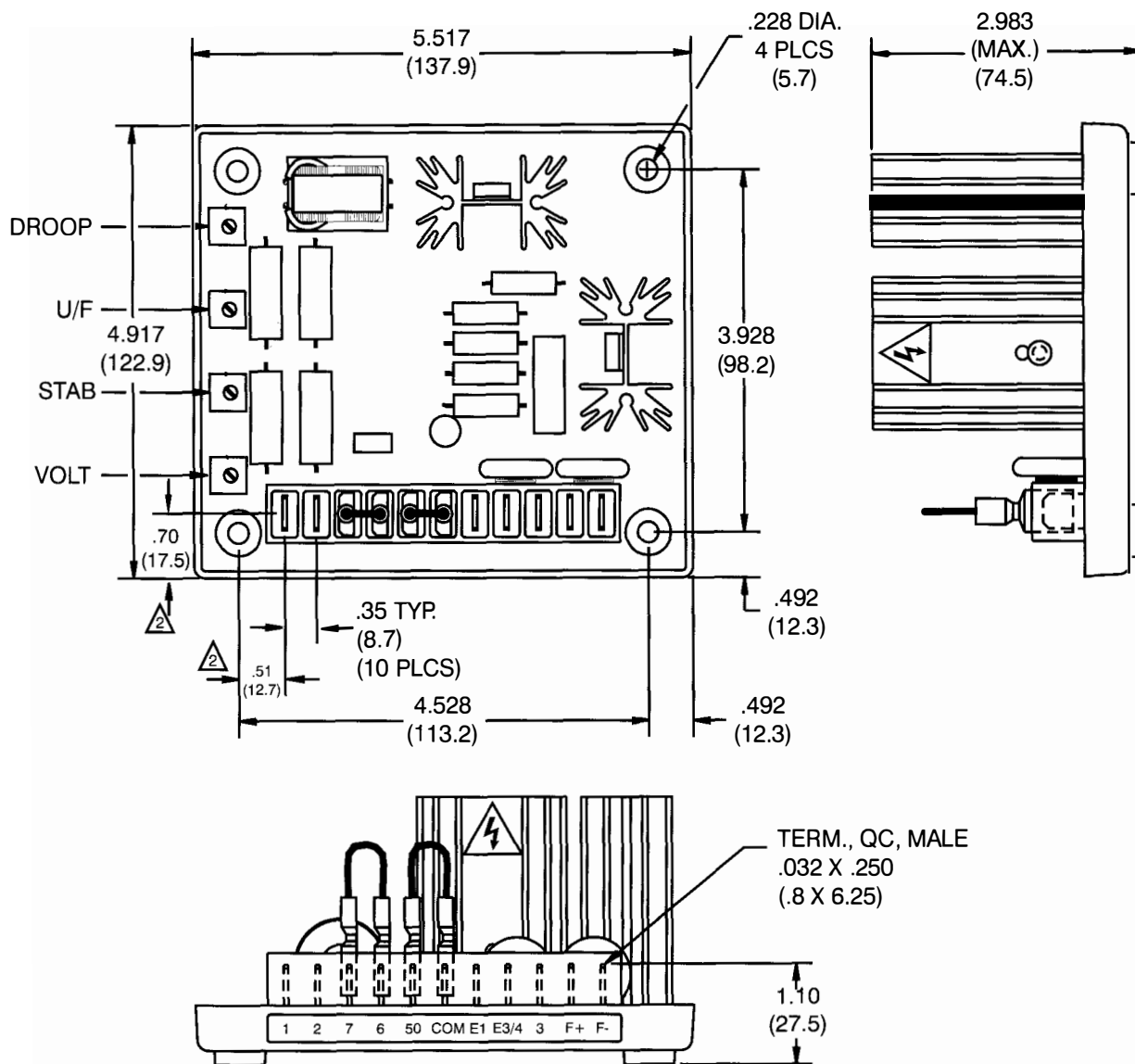


Figure 2 - Typical Interconnection Diagram



NOTES:

- 1) DIMENSIONS ARE IN INCHES (MILLIMETERS).
- 2) DIMENSIONS TO TERMINALS ARE APPROXIMATE.
- 3) NET WEIGHT = 1 LB. 1 OZ.
- 4) WATTS DISSIPATED = 35 MAX.

Figure 3 - Outline Drawing

**B Basler Electric**



ROUTE 143, BOX 269, HIGHLAND, ILLINOIS U.S.A. 62249  
PHONE 618-654-2341 FAX 618-654-2351

P.A.E. Les Pins, 67319 Wasselonne Cedex FRANCE  
PHONE (33-3-88) 87-1010 FAX (33-3-88) 87-0808

<http://www.basler.com>, [info@basler.com](mailto:info@basler.com)