



APR63-5/UL



APR125-5

**CLASS 200 EQUIPMENT
APR SERIES
VOLTAGE REGULATOR**

The APR series voltage regulators provide a small, reliable and economical voltage regulator for 50 or 60 Hz brushless ac generators. The APR has frequency compensation which aids system block load pickup performance and controls excitation when operating below synchronous speed. The regulator is designed for prime and standby power applications for small and medium sized brushless generators. Accessory equipment can adapt the APR to a broad range of specialized applications.

FEATURES:

- Regulation Accuracy better than $\pm 0.25\%$
- Frequency Compensated
- Overexcitation Shutdown
- Solid State Voltage Buildup
- Moisture Proof Potted assembly
- Mechanically Rugged
- Remote Voltage Adjust Rheostat Supplied
- Small Size, Reliable, Low Cost
- Built-in EMI Filter
- Fast Response Time
- Applicable to 50 or 60 Hz Systems
- Complete Accessory Line available
- CSA certified
- UL recognized

ADDITIONAL INFORMATION

INSTRUCTION MANUAL

Request publication 9168700990 (APR63-5)

Request publication 9168800990 (APR125-5)

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DESCRIPTION

The APR series voltage regulators are completely solid-state and use an electromagnetic interference (EMI) suppression circuit to reduce EMI generated by the regulator. Voltage is internally or remotely adjustable. The APR has a jumper selectable, frequency compensated operating characteristic as shown by Figures 1 and 2.

SPECIFICATIONS

OUTPUT POWER:

Voltage Regulator	Output Voltage	Output Current	Forcing Voltage	Forcing Current
APR 63-5/UL	63.5 Vdc	5.0 Adc	100 Vdc	8.0 Adc
APR 125-5	125 Vdc	5.0 Adc	200 Vdc	8.0 Adc

EXCITER FIELD DC RESISTANCE:

Voltage Regulator	Minimum	Maximum
APR 63-5/UL APR 125-5	12.6 ohms 25 ohms	100 ohms 100 ohms

POWER DISSIPATED:

APR 63-5/UL	9 Watts (max.)
APR 125-5	25 Watts (max.)

AC INPUT POWER:

	Voltage	Burden
APR 63-5/UL	190 to 277 Vac, single phase, 50/60 Hz. $\pm 10\%$	650 VA (max.)
APR 125-5	190 to 277 Vac, single phase, 50/60 Hz. $\pm 10\%$	1000 VA (max.)

AC SENSING:

	Voltage	Burden
APR 63-5/UL	190-240, 380-480, single phase, 50/60 Hz. $\pm 10\%$	5 VA (max.)
APR 125-5	190-240, 380-480, single phase, 50/60 Hz. $\pm 10\%$	1 VA (max.)

ACCESSORIES

POWER ISOLATION TRANSFORMER - Low voltage power isolation transformers can be used to provide electrical isolation and to match voltages from the generator to the regulator as follows:

APR 63-5/UL - BE18674
APR 125-5 - BE18674

APM 2000 PARALLELING MODULE - To parallel two or more generators using droop or cross current compensation, use this module and a current transformer

During start-up, the solid-state voltage build-up circuit operates from generator output residual voltages as low as 6Vac. The built-in overexcitation limiting removes the output power if the exciter field voltage exceeds a predetermined level. (See Figures 3 and 4). After removing power the regulator monitors the generator output and resets when the voltage has decreased below 6Vac.

VOLTAGE ADJUST RANGE: 170 to 264 Vac, 340 to 528 Vac.

REGULATION ACCURACY: $\pm 0.25\%$

VOLTAGE DRIFT: Less than $\pm 1\%$ voltage variation for a 50°C (90°F) temperature change.

RESPONSE TIME: One cycle.

FREQUENCY COMPENSATION: Refer to Figures 1 and 2.

EMI SUPPRESSION: Built-in

VOLTAGE BUILD-UP: Solid state build-up circuit operates from generator residual voltages as low as 6 Vac.

OVER EXCITATION SHUTDOWN: Shuts off field voltage if exciter exceeds the following (see Figures 4 and 5):

Model	Field Voltage
APR 63-5/UL APR 125-5	95-105 Vdc 170-190 Vdc

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

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

SHOCK: Withstands up to 15 G's in each of three mutually perpendicular axes.

VIBRATION: Withstands the following:

Frequency	Acceleration
5-26 Hz.	1.2 G
26-52 Hz.	0.036 in. displacement
53-500 Hz.	5 G

WEIGHT: APR 63-5/UL 2.5 lb. (1.1 kg) net
3.5 lb. (1.6 kg) shipping
APR 125-5 5.1 lb. (2.3 kg) net
6.1 lb. (2.8 kg) shipping

with a 5 ampere nominal secondary, such as the Basler CT series.

MVC 300 MANUAL VOLTAGE CONTROL - With an electronically regulated output, this control offers backup excitation for the regulator in critical applications.

CBS 305/320 SERIES CURRENT BOOST SYSTEM - Using electronics built into the APR and a current transformer to tap the generator line current, the CBS boosts the field current during short circuit or large motor starting.

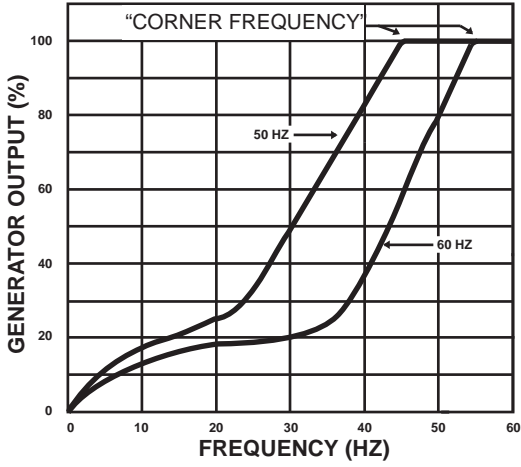


Figure 1 - Frequency Compensation Curves, APR 63-5/UL

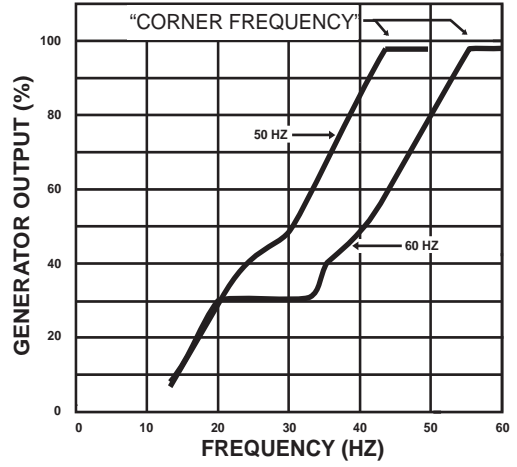


Figure 2 - Frequency Compensation Curves, APR 125-5

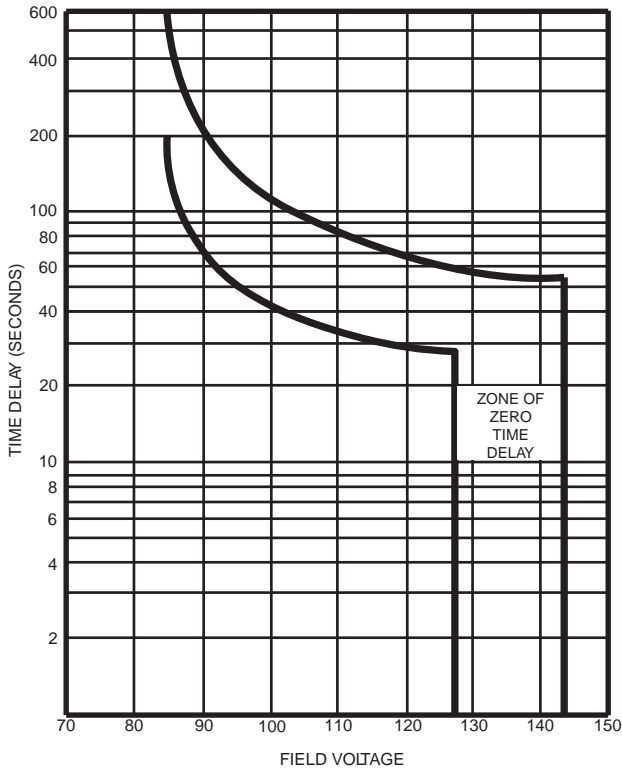


Figure 3 - Overexcitation Shutdown Characteristic Curves, APR 63-5/UL

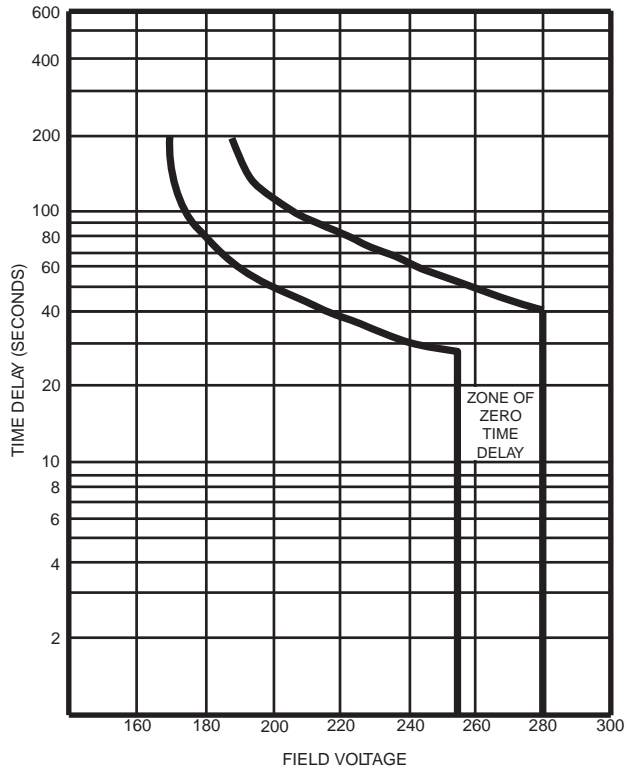


Figure 4 - Overexcitation Shutdown Characteristic Curves, APR 125-5

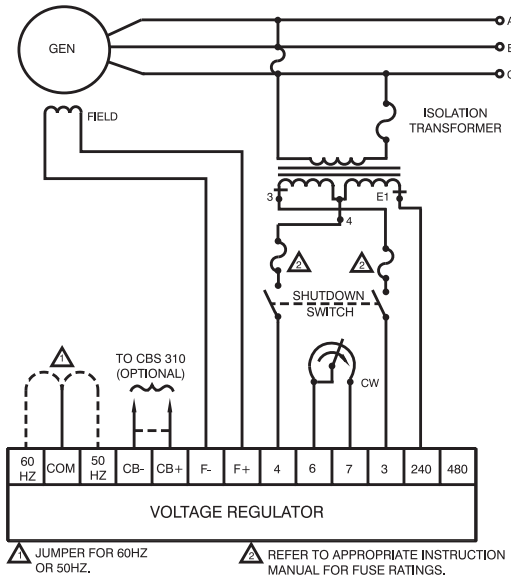


Figure 5 - Typical Interconnection

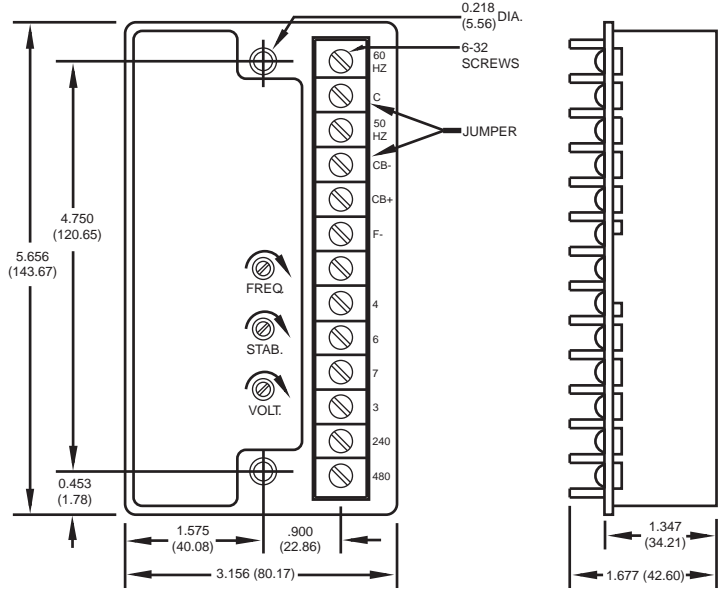


Figure 6 - Outline Drawing, APR 63-5/UL

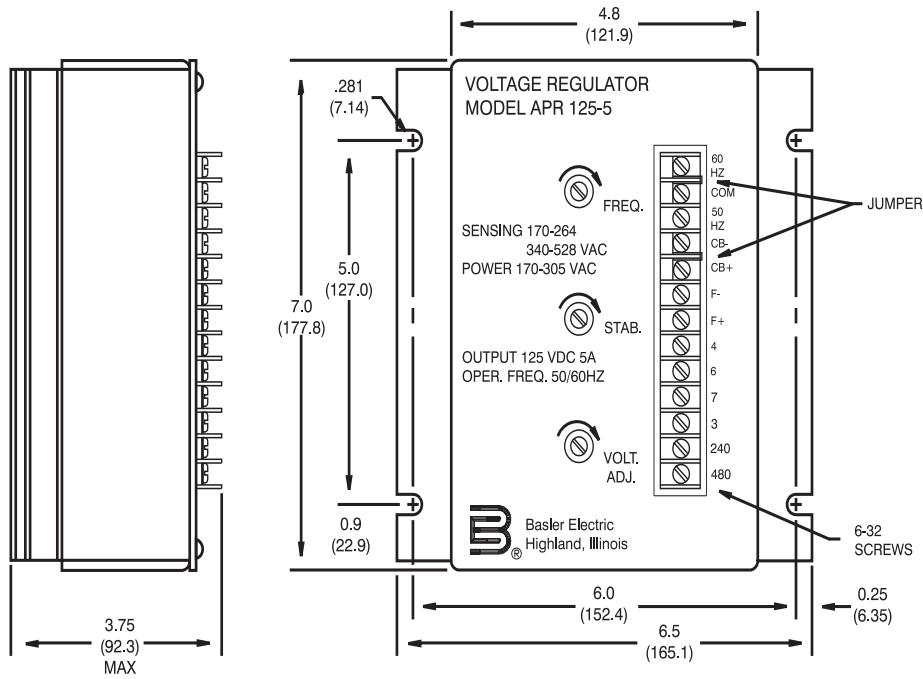


Figure 7 - Outline Drawing, APR 125-5

NOTE: All dimensions are in inches (millimeters).
All drawings and data subject to change without notice.



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