

INSTRUCTIONS

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FOR VOLTAGE REGULATOR AVC63-2 9318300105

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INTRODUCTION

AVC63-2 Voltage Regulators are intended for use on 50 Hz or 60 Hz brushless generators. The AVC63-2 includes a solid-state buildup circuit and EMI filtering.

WARNING!

To prevent personal injury or equipment damage, only qualified technicians or operators should install, operate, or service this device.

ELECTRICAL SPECIFICATIONS

DC Output Power

Maximum Continuous: 2 Adc at 63 Vdc
One-Minute Forcing: 3.17 Adc at 100 Vdc (at 240 Vac input).

Exciter Field DC Resistance

31.5 Ω , minimum.

AC Power Input

Single phase, 50/60 Hz
Operating Range: 171 Vac to 264 Vac
Burden: 320 VA.

Sensing Input

Single phase, 50/60 Hz
Operating Range: 171-264 Vac
Burden: 320 VA.

Regulation Accuracy

Better than $\pm 1.0\%$, no-load to full-load.

EMI Suppression

Internal, electromagnetic interference (EMI) filter

Voltage Buildup

Internal provisions for automatic voltage buildup from generator residual voltage as low as 10 Vac.

Terminations

$\frac{1}{4}$ inch quick-connect terminals

PHYSICAL SPECIFICATIONS

Temperature

Operating: -40 to 60°C (-40 to 140°F)
Storage: -40 to 85°C (-40 to 185°F)

Vibration

Withstands 1.5 G at 5 to 29 Hz; 0.036" double amplitude at 29 to 52 Hz; and 5 G at 52 to 500 Hz.

Shock

Withstands up to 15 G in each of three mutually perpendicular axes.

Weight

3.7 oz. (105 g)

FUSES

It is recommended that fuses with high interruption capability be installed per the interconnection diagram to protect wiring from faults before the regulator. See *Interconnection Drawings*.

NOTE

Fuse must be installed per the interconnection diagrams to avoid interrupting the field current.

OPERATION

The following system operation procedures provide instructions for adjusting the AVC63-2 voltage regulator. Symptoms resulting from a faulty regulator and certain generator system problems are included, together with suggested remedies.

Complete the following steps before proceeding with the system start-up.

CAUTION

Meggers and high-potential test equipment must not be used. Incorrect use of such equipment could damage the semiconductors contained in the regulator.

PRELIMINARY SETUP

1. Verify that the voltage regulator specifications conform with the generator system requirements.
2. Ensure the voltage regulator is correctly connected to the generator system.
3. Install the fuses as described in Fuses.
4. Set the regulator VOLT ADJ fully CCW.

SYSTEM STARTUP

1. Perform preliminary set-up as described in the above paragraphs.

NOTE

All voltage readings are to be taken with an average reading voltmeter.

2. Start prime mover and bring up to rated speed.

RESULT: Voltage should build up. If not, perform Field Flashing.

3. Slowly adjust the regulator VOLT ADJ CW until the generator output voltage reaches the nominal value.

RESULT: Voltage should build up to rated value. If voltage does not build up to rated value, check generator for short or excessive load.

4. Check regulator under normal operating and loading conditions.

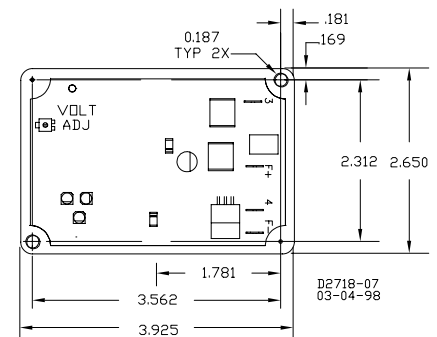
OPERATIONAL TEST

1. Connect the test setup as shown in the figure titled *Operational Test*. Do not apply power. Ensure that the light bulb is rated for 240 V and is less than 100 W.

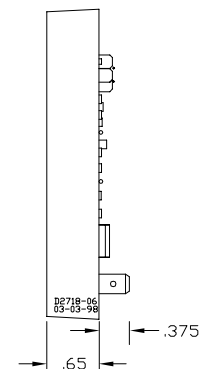
2. Adjust the regulator VOLT ADJ to maximum CW.
3. Apply 240 V, 50/60 Hz power to the regulator. The light bulb should illuminate.
4. Slowly adjust the regulator VOLT ADJ control CCW. At the regulation point, the light bulb should extinguish.

The following notes apply to the interconnection diagrams:

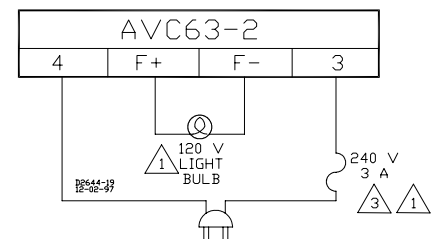
1. Item not supplied by Basler Electric.
2. Select fuses with high interrupting capacity.



Outline Diagram (Top View)



Outline Diagram (Side View)



NOTE:
If glass-type fuse is used, enclose for safety.

Operational Test Connections

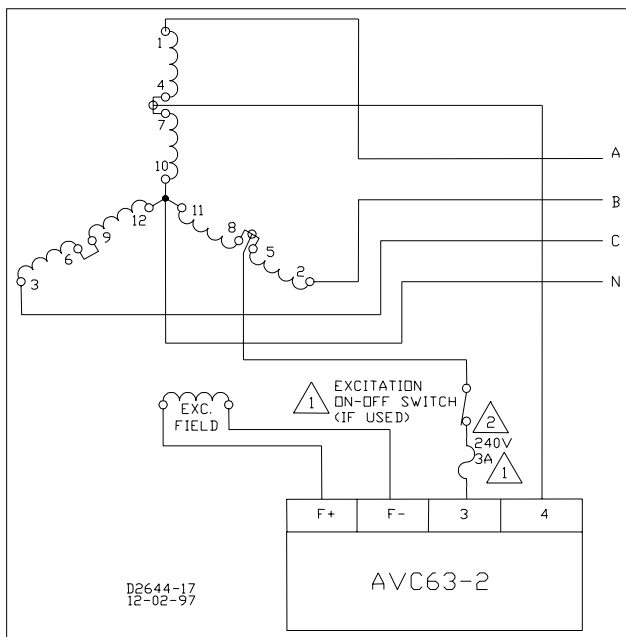
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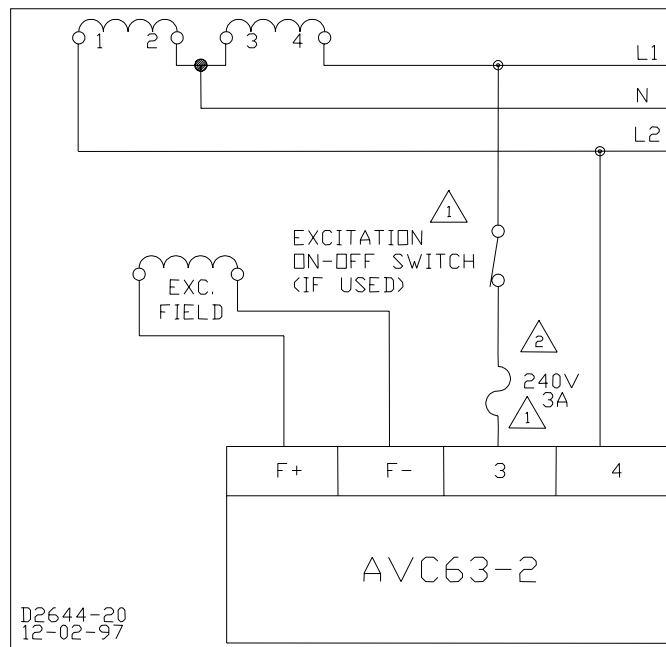
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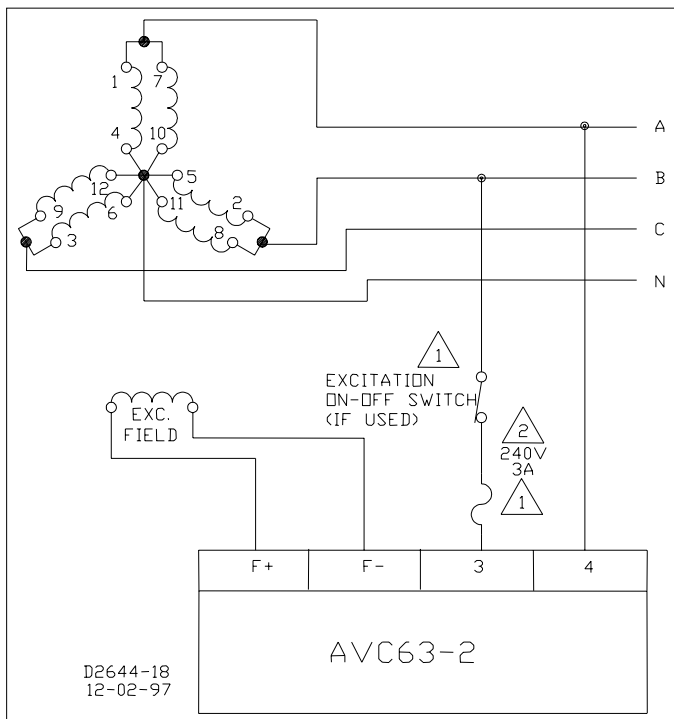
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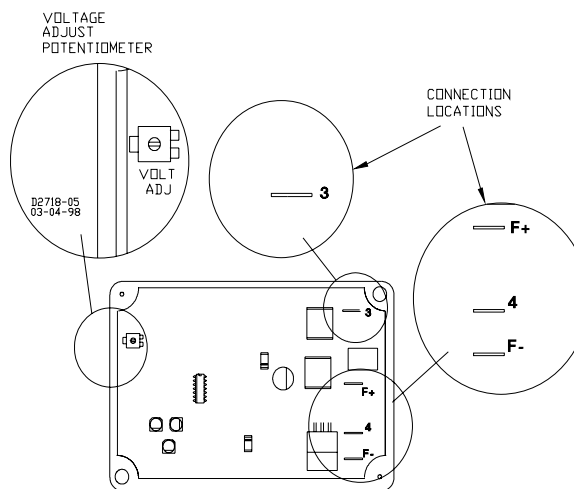
Interconnection Diagram, 277/480 V Nominal, 3-Phase, 4-Wire, Wye Connection



Interconnection Diagram, 120/240 V Nominal, 1-Phase, 3-Wire



Interconnection Diagram, 120/208 V Nominal, 3-Phase, 4-Wire, Wye Connection



Potentiometer and Connector Locations