



**Magnetic Power Systems, Inc.**

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## **INSTRUCTION MANUAL 3B123-1RPL 90 VOLT ISOLATED POWER AMPLIFIER**

### **Introduction**

The 3B123-1RPL 90 Volt Isolated Power Amplifier is a solid state, controllable regulator with a maximum capability of 1 amp at 90 vdc. Its primary use is for the control of magnetic particle clutches and brakes.

Four selectable output current ranges are provided. Maximum outputs for the individual ranges are .125, .25, .5, and 1.0 adc. The appropriate range is determined by the current rating of the clutch or brake to be controlled. For the best torque resolution, the lowest current range providing sufficient current for maximum operating torque should be selected. The range is selected by positioning the jumpers on jumpblock "JP1".

Connections are provided for an external 1 ma current meter. The meter will indicate output current as a percentage of the output range selected. For example, if the "JP1" jumpers are positioned for a maximum current of .25 adc and the meter indication is  $\frac{1}{2}$  of its full deflection, the output current is  $\frac{1}{2}$  of .25 adc, or .125 adc.

This unit accepts a remote adjustment potentiometer, or a 0 to 10 vdc analog control signal.

### **Installation**

Step 1: Mount the Power Amplifier.

Step 2: Connect the clutch or brake to the output terminals (TB1-3 and TB1-4).

Step 3: Insure that the load is not grounded.

Step 4: Select desired current range by positioning jumpers on "JP1".

Step 5: Connect to a de-energized 115 vac line (TB1-1 and TB1-2).

Step 6: Connect either the remote adjustment potentiometer as shown in the figure, or a 0 to 10 vdc input signal to TB1-8 (higher potential terminal) and TB1-9 (lower potential terminal).

Step 7: Turn power on.

### **Minimum Current Level Adjustment**

The minimum dc current output level is preset by the factory to provide a "reverse current" at the zero tension pot setting, and generally does not require adjustment by the user. For special applications, a minimum current adjustment potentiometer is provided (R24). It is used to set the dc current output at the "zero" tension pot setting (or 0 vdc analog control signal input). Refer to the figure for the location of the minimum current pot. If an adjustment is required:

1. Set the tension pot to its "zero" setting (or the analog control signal input to 0 vdc).
2. Adjust the minimum current pot to achieve the desired output level. Clockwise rotation of the pot increases the output current.

