



ANALOG MODULES, INC.

Specialists in Analog and Laser Electronics

MODEL 521A PROGRAMMABLE HIGH VOLTAGE POWER SUPPLY APPLICATION/OPERATING NOTES

MODEL 521A POWER REQUIREMENTS

The Models 521A-1, -3, -5, -7, -9 and -11 require an input of +12 volts at typically 18mA (no load) and the Models 521A-2, -4, -6, -8, -10 and -12 require a +24 or +28 volt source at typically 12mA (no load). Higher currents may be drawn under load.

TOLERANCE ON THE INPUT SUPPLY

The Model 521A has an internal precision reference which is used to stabilize the output despite variations in the supply voltage. The maximum input voltage should not exceed 125% of the nominal value. Where very poor quality supplies are used, then a voltage limiting zener and series impedance is recommended.

POWER CONNECTION

The positive input supply is connected between the center terminal (See Figure 1) and the ground solder tag.

OUTPUT VOLTAGE SETTING

The output voltage is linearly proportional to the 0 to +5 volt control input. For the positive output versions, +5V represents full output, 0V give zero output. For the negative output module (-n), +5V represent zero output and 0V represents maximum specified output. A temperature-compensated +5V reference at up to 10mA is provided to simplify the output control. For a fixed output voltage, the reference is simply divided by two stable resistors and fed into the control input (Figure 2). For a variable output, a potentiometer (Figure 3) or an external control (Figure 4) may be used.

E.M.I. AND GROUNDING

The case of the module is connected to the returns and the shielding is completed by a lid. Input and output are filtered with respect to case. When a high frequency circuit such as a fast photodetector is being powered, then a local decoupler capacitor and resistor is recommended. A 1K resistor in the HV return will help prevent ground loops.

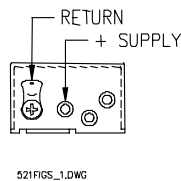


Figure 1

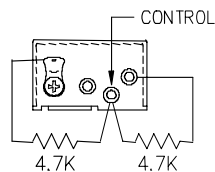


Figure 2

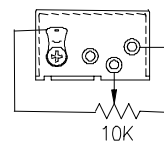


Figure 3

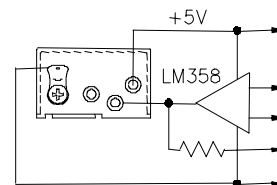


Figure 4