

MODEL AVO-6D-T

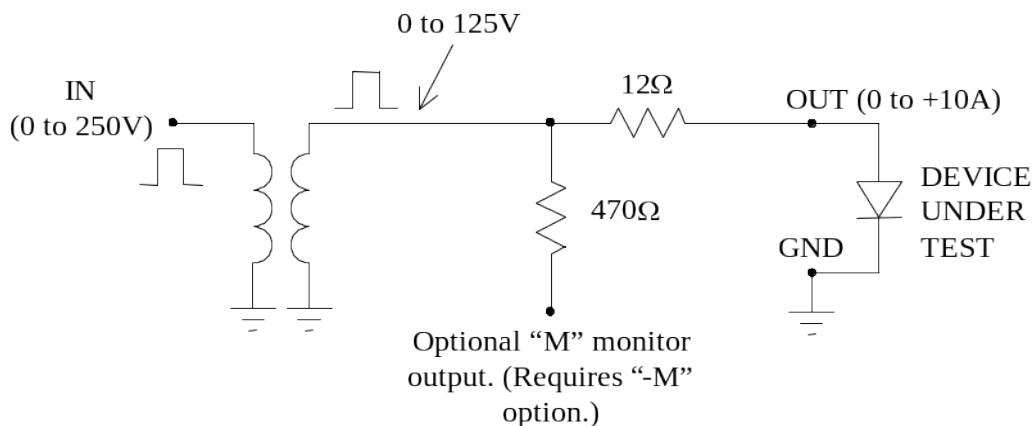
INSTRUCTIONS

The AVO-6D-B consists of two parts, the mainframe and the AVO-6D-T output module. The mainframe is a voltage pulser, which, in conjunction with a transformer in the output module, generates 0 to +125V (V_{OUT}). The output module contains a 12Ω series resistance. The diode load is connected in series with this resistance, so that the current through the diode is normally given by:

$$I_{DIODE} = \frac{V_{OUT} - V_{DIODE}}{12\Omega}$$

where V_{DIODE} is the voltage drop across the diode.

The functional equivalent circuit of the output module is shown below:



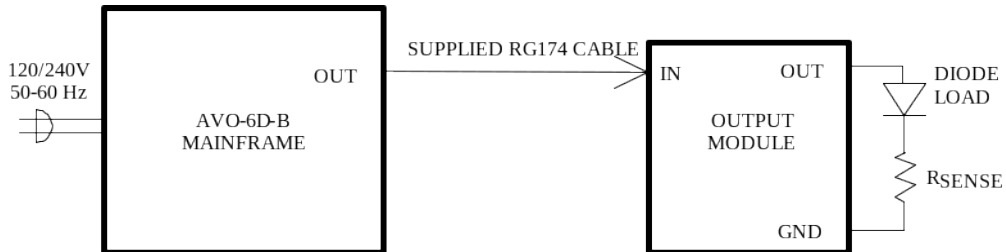
Output Module Functional Equivalent Circuit

(The equivalent circuit is shown for positive outputs. For “-N” instruments, and the negative output circuit of the dual-polarity “-PN” instruments, the polarities are negative and diodes are reversed in direction.)

An additional resistance (R_{SENSE}) can be placed in series with the diode load, for current monitoring purposes. In this case, the diode current is given by:

$$I_{DIODE} = \frac{V_{OUT} - V_{DIODE}}{12\Omega + R_{SENSE}}$$

The basic scheme for connecting the mainframe and the output module to the laser diode load is shown below:



If R_{SENSE} is not used, connect the diode cathode directly to the GND terminal. (The diode is shown oriented for a positive output current. It must be reversed for use with negative outputs.)

“-PN” units have a positive and a negative output on the mainframe. The output module must be connected to the appropriate mainframe output, depending on the set amplitude polarity.

A fast current probe may be used to monitor the current waveform. Factory testing is conducted using a Tektronix CT2 current transformer. (This technique tends to introduce less waveform distortion than the sensing resistor method.)