

*Higher Power Module Available

**Low Ripple
Low EMI/RFI**

Features:

- Encapsulated Aluminum case
- Voltage & Resistance Programmable
- Adjustable Output
- Stability: <100PPM/ ° C
- Temperature Range: -55 ° C to 90 ° C (Case)
- 12V, 15V and 28V Input Voltages available

Electrical Characteristics:

- Input Voltage: 24 VDC \pm 10%
- Input Current :100 mA (NO LOAD) (typ)
- Input Current :700 mA (FL 10W)
- Load Regulation:0.01% NL - FL (typ)
- Line Regulation:0.01% (Vin +/- 10%)
- Slew Rate: Less than 0.1 sec (10-90%)

MC Series Description and Application Notes:

The MC series precision switching supplies are extremely efficient DC to DC converters for applications requiring a highly regulated source of high voltage that is controllable over a wide range of load conditions. These compact units are used in medical, RF, and airborne displays. Due to the high power volumetric efficiency, they also find uses in capacitor charging equipment. The output polarity is fixed and specified at time of purchase. Output return and input return are common.

The MC Series high voltage power supplies are regulated by virtue of Pulse Width Modulation topology. The normal input voltage of 24 VDC is stepped up by resonant action to a high voltage output which is referenced to the input ground. The output voltage of the MC unit is NOT FLOATING. The output high voltage return and the input power return are internally connected together.

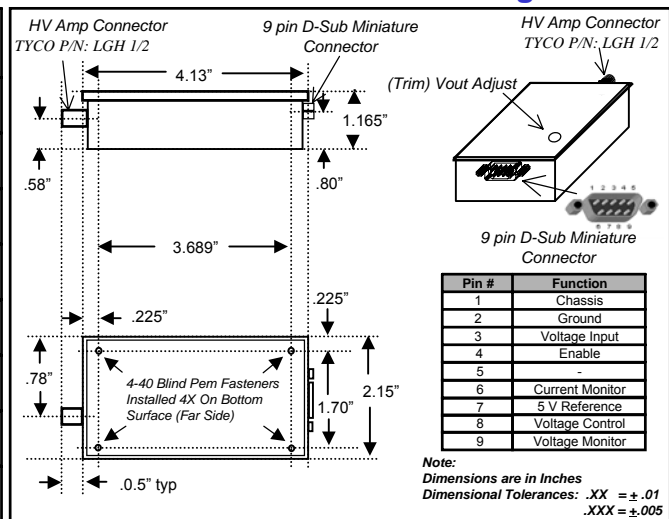
A twenty turn potentiometer located on the top of the unit sets the maximum output voltage. The output voltage may also be controlled in two different Ways. In the voltage programming mode, a control voltage between 0 - 5 VDC will adjust the output between 0 and full output. In the resistance programming mode, a resistor placed between Pin 7 (5.0-V reference output) and Pin 8 (V control) will set the output to a voltage which depends on the value of the resistance used. Typically a 10-k Ohm resistor will set the output voltage to 50%. Zero resistance yields full output.

The maximum output current ability is set for each unit to be 120% above the nominal value determined by the maximum current. The MC series power supply is short circuit protected by virtue of a 'try again' circuit which shuts down the high voltage for 2 seconds and resets a slow-start'. All MC units provide voltage and current monitors 1000:1 ratios.

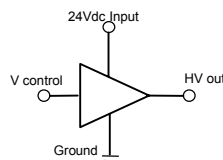
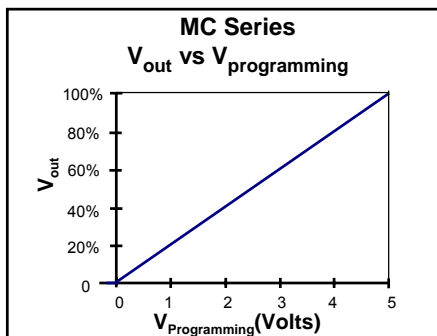
Product Selection Table

Model	Output Voltage	Output Current	Ripple
MC-5	0 to 500V	0 to 20.0mA	0.1%
MC-10	0 to 1000V	0 to 10.0mA	0.1%
MC-20	0 to 2000V	0 to 5.0mA	0.1%
MC-25	0 to 2500V	0 to 4.0mA	0.1%
MC-50	0 to 5000V	0 to 2.0mA	0.1%
MC-75	0 to 7500V	0 to 1.33mA	0.1%
MC-100	0 to 10,000V	0 to 1.0mA	0.1%
MC-150	0 to 15,000V	0 to 0.66mA	0.1%

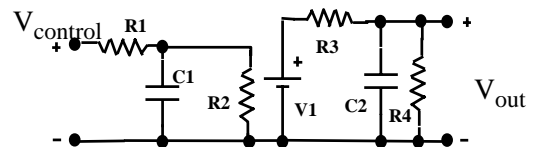
MC Series Outline Drawing



Output Voltage vs. Programming Voltage



Schematic Equivalent



$$R1=100 \Omega$$

$$R2=10K \Omega$$

$$R3=(0.1 \times V_{outmax}) \Omega$$

$$R4=(5 \times V_{outmax}^2) \Omega$$

$$C1=0.01 \mu F$$

$$C2=[0.01 \times (I_{outmax}/V_{outmax})] F$$

$$V1=V_{outmax} \times (V_{R2}/5) V$$

Note: Chassis internally connected to ground via 100 K resistor parallel with 0.01 μ F capacitor