Spellman’s MCP Module is a well-regulated, high performance DC-DC converter featuring a floating 3kV output, isolated to 15kV. The MCP low output ripple specification makes it ideal for use with detectors in Mass Spectrometry applications like: Electron Multipliers (EM’s), Microchannel Plates Detectors (MCP’s) and Channel Electron Multipliers.

This +3kV @ 330uA module is packaged in a shielded metal enclosure. The unit has remote voltage programming and a voltage monitor, and features low injected ripple when used with biasing supplies. The MCP module is easily customized to meet OEM requirements with improved ripple performance, improved stability and configurable output lead terminations as required.

TYPICAL APPLICATIONS

Mass Spectrometry Detectors
Microchannel Plates
Electron Multipliers
Channel Electron Multipliers

SPECIFICATIONS

Input Voltage:
+24Vdc, ±0.5 volts

Input Current:
600 mA maximum

Output Voltage:
+100V to +3kV, continuously variable over the entire output range

Output Current:
330uA maximum

Polarity:
Positive

Isolation Voltage:
Up to 15kV total to ground
(resistance to ground 600M on each output)

Line Regulation:
≤0.01% for input voltage change of 1V

Load Regulation:
≤0.1% for a no load to full load change

Voltage Programming:
0 to 10 volt corresponds to 0 to 100% of rated output voltage

Voltage Monitor:
0 to 5 volts corresponds to 0 to 100% of rated output voltage

Accuracy:
±1% from 10% to 100% of output.
Below 10% accuracy spec is not guaranteed

Ripple:
≤0.1% Volts p-p, 0.1Hz to 1MHz

Stability:
≤1000 ppm/hour at constant operating conditions after a 1 hour warm up

Temperature Coefficient:
≤300ppm per degree C

Environmental:
Temperature Range:
Operating: 0°C to 40°C
Storage: -40°C to 85°C
Humidity:
10% to 90%, non-condensing.

Cooling:
Convection cooled

Dimensions:
1.49” H x 4.09” W x 6.73” D (38mm x 104mm x 171mm)

Weight:
2.2 pounds (1kg)

Interface/Power Connector:
9 pin male D connector

HV Output Connector:
HV positive: 29.5” (750mm) flying lead, coaxial HV cable
HV negative: 29.5” (750mm) flying lead, coaxial HV cable

Regulatory Approvals:
MCP INTERFACE/POWER CONNECTOR

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<td>Signal Ground</td>
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<td>0-10Vdc = 0-100% of Rated Output</td>
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<td>7</td>
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<td>8</td>
<td>Power Ground</td>
<td>Power Ground</td>
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<tr>
<td>9</td>
<td>Power Ground</td>
<td>Power Ground</td>
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DIMENSIONS: in.[mm]

- Front View
- Back View
- Top View

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