



Spellman's MXE series is a family of high voltage, high performance, ultra-compact, hot-switchable polarity reversing modules with output voltages ranging from 2.5kV to 10kV.

The MXE series is controlled via analog interface, provided via a standard 15-pin D-type connector. The units feature a differential voltage program input for low noise control and TTL compatible Enable and Polarity control signal inputs.

Spellman's advanced low noise, high stability technology provides the high quality and performance needed for precision applications.

TYPICAL APPLICATIONS

Mass Spectrometry	Electrostatic Printing
Automatic Test Equipment	Electrostatic Lenses
Capillary Electrophoresis	Electrospinning
Dual Ion Surface Analysis	Precision Laboratory

SPECIFICATIONS

Input Voltage:

+24Vdc, ± 1.2 Vdc

Input Current:

0.5A maximum

Output Voltage:

3 models available: ± 2.5 kV, ± 5 kV and ± 10 kV

The minimum programmable voltage is ± 20 V

The output is not designed to sink current

Output Polarity:

Hot-switchable polarity reversing

Output Current:

200 μ A maximum

Voltage Regulation:

Line: For a 5% line change 20ppm

Load: 0-100% load 20ppm

- **Hot-switchable polarity reversing modules from 2.5kV to 10kV, at 200 μ A**
- **Differential Analog Voltage Control**
- **Voltage and Current Monitors**
- **High Stability, Low Temperature Coefficient**
- **Ultra Low Ripple and Noise, Specified Down to 1/f Band**

Accuracies:

Voltage Programming: $\pm 1\%$ or ± 10 V*

Voltage Monitor: $\pm 2\%$ or ± 20 mV*

Current Monitor: $\pm 5\%$ or ± 50 mV*

*whichever is greater

Current Limit:

110% of rated output current.

Polarity Reversal Time:

10s to within 2ppm at max output voltage amplitude and 100pF load

Output Decay Time:

5s to <50V at no-load condition

Ripple:

30mV between 0.01Hz and 20MHz

Stability:

15ppm/8h after one hour warm up period

Temperature Coefficient:

15ppm per degree C

Protection:

Arc and short circuit protected.

The power supply will fully recover once the short is removed with no subsequent damage to load, supply, input control, or input supply

Environmental:

Temperature Range:

Operating: 10°C to 45°C

Storage: -20°C to 85°C

Humidity:

5% to 90% RH, non-condensing

Cooling:

Convection cooled

Dimensions:

1.9" H X 5.7" W X 6.8" D (48mm x 144mm x 172mm)

Weight:

3.74 lbs (1.7kg)

Interface Connector:

15 pin male D connector

Output Connector:

Captive 39.4" (1 meter) long un-terminated shielded HRG58 HV cable (URM76 compatible)

Regulatory Approvals:

Compliant to EEC Low Voltage Directive. UK Conformity Assessed. RoHS Compliant.

MXE SELECTION TABLE

Model	Output Voltage	Output Current
MXE2.5PN24	±2.5kV	200µA
MXE5PN24	±5kV	200µA
MXE10PN24	±10kV	200µA

MXE EXTERNAL INTERFACE — 15 PIN MALE D CONNECTOR

PIN	SIGNAL	SIGNAL PARAMETERS
1	24Vdc Return	Input voltage return
2	+24Vdc Input	Input voltage +24dc @ 0.5A max
3	Voltage Monitor Output	0 to 10Vdc = 0 to 100% rated output, Zout=330Ω
4	Polarity Set Input	TTL level or open/short contact signal. Low or short = Positive, high or open = Negative
5	N/C	Pin used internally - do not connect
6	Voltage Program Return	0 to 10Vdc differential between pin 7 and pin 6 =
7	Voltage Program Input	0 to 100% of rated output, Zin=100kΩ
8	Current Monitor Output	0 to 10Vdc = 0 to 200µA, Zout=330Ω
9	N/C	Pin used internally - do not connect
10	N/C	Pin used internally - do not connect
11	Signal Ground	Signal ground for control and monitoring
12	Enable Input	TTL level or open/short contact signal. Low or short = enabled, high or open = disabled
13	Control Pin	Connect to pin 14
14	Control Pin	Connect to pin 13
15	N/C	Pin used internally - do not connect

DIMENSIONS: in.[mm]

