



Spellman's ESC Series of electrostatic chuck power supplies provide clean and accurate voltages required for electrostatic chuck wafer processing applications. These custom designed, well regulated supplies precisely secure the wafer during lengthy process cycles. Versions are available with a ground referenced reversible output in addition to units featuring a true floating bipolar output with associated floating center tap point. Comprehensive fault diagnostic circuitry monitors power supply functionality and communicates status data to the user interface. Spellman's ESC Series power supplies are housed in compact, lightweight packages designed for OEM installations requiring minimal system footprint space.

TYPICAL SPECIFICATIONS

Type 1

Output Configuration:

Single ground referenced HV output, positive or negative polarity

Input:

+24Vdc, $\pm 5\%$ @ 2 amps, maximum

Output:

+2kV to -5kV. 2mA @ +2kV, 5mA @ -5kV

Short Circuit Current Limit:

5.5mA, maximum

Output Isolation:

None, ground referenced output

Slew Rate:

80ms, typical

Maximum Cycle Frequency:

10 times per second

Overshoot:

<10% of set point value

Ripple:

10Vrms

Line Regulation:

$\pm 0.7\%$ over specified range

Load Regulation:

$\pm 0.7\%$ over specified range

- **Platform Product Capability**
- **Ground Referenced, Reversible Output**
- **Floating, Reversible Bipolar Output**
- **+24Vdc DC Input**
- **Comprehensive Fault Diagnostics**
- **High Voltage Safety Interlock**
- **Custom "X" Number Required**

Output Voltage Accuracy:

<2% of set point value between 50-5000Vdc

Program/Monitor Accuracy:

1% of full scale, $\pm 50\text{mV}$

Dimensions:

9"W x 1.5"H x 6.1"L (228.6mm x 30.5mm x 155mm)

Weight:

4.5lbs. (2kg)

Type 2

Output Configuration:

Floating, reversible polarity bipolar output with floating center tap

Input:

+24Vdc, $\pm 10\%$ @ 2 amps, maximum

Output:

Bipolar, 0 to $\pm 750\text{Vdc}$ (0 to 1500Vdc total) @ 5mA

Short Circuit Current Limit:

5.5mA, maximum

Output Isolation:

Center tap is isolated for $\pm 2\text{kV}$ from ground

Slew Rate:

40ms, typical

Maximum Cycle Frequency:

10 times per second

Ripple:

2.5Vrms

Line Regulation:

$\pm 0.7\%$ over specified range

Load Regulation:

$\pm 0.7\%$ over specified range

Output Voltage Accuracy:

<1% of set point between 50-1500Vdc

Program/Monitor Accuracy:

0.5% of full scale, $\pm 50\text{mV}$

Dimensions:

3.4"W x 3"H x 10.5"L (86.5mm x 76.5mm x 266.7mm)

Weight:

5lbs. (2.3kg)