



- **Ideal for Electrospinning**
- **0-30kV Remotely Programmable**
- **0-300 $\mu$ A Remotely Programmable**
- **Polarity Reversible Upon Command in <1 Sec at No Load**
- **Low Stored Energy, Current Limited Output**
- **Cost Effective Modular Design**

Spellman's CZE2000 modular high voltage power supply is ideal for OEM usage. It is specifically designed to meet the needs of applications requiring a hot switched reversible output voltage. The output polarity of the unit can be quickly and safely reversed via the Polarity Control Signal provided on the interface connector.

Both the output voltage and current are fully adjustable via ground referenced remote programming signals such that 0 to 10Vdc corresponds to 0 to 100% rated output voltage and current.

Remote motioning functionality is provided by voltage and current test points such that 0 to 10Vdc corresponds to 0 to 100% rated voltage and current. Additionally remote polarity and mode indicators provide a comprehensive overview of power supply operation.

Excellent load and line regulation specifications along with outstanding stability and low ripple assure a stable high voltage output for consistent process results.

### TYPICAL APPLICATIONS

Electrospinning  
Mass Spectrometry  
Capillary Electrophoresis  
Electrostatic Research

### SPECIFICATIONS

#### Input Voltage:

24Vdc,  $\pm 10\%$

#### Input Current:

Less than 1 amp

#### Efficiency:

75% typical

#### Output Voltage:

See selection table

#### Output Current:

See selection table

#### Polarity:

Auto reversible via command

#### Power:

10 watts, maximum

#### Line Regulation:

0.01% for a 10% input voltage change

#### Load Regulation:

0.01% for a full load change

#### Ripple:

0.1% Vp-p

#### Stability:

0.02% per 8 hours (after 1/2 hr warmup)

#### NL Time Constant:

100ms

#### Stored Energy:

0.2 Joules at 30kV

#### Temperature Coefficient:

100ppm/ $^{\circ}$ C

#### Operating Temperature:

0 $^{\circ}$ C to 40 $^{\circ}$ C

#### Storage Temperature:

-40 $^{\circ}$ C to 85 $^{\circ}$ C

#### Humidity:

10% to 85% RH, non condensing

#### Cooling:

Convection cooled

#### Dimensions:

3.5"H x 5"W x 10"D (8.9cm x 12.7cm x 25.4cm).

#### Weight:

6.2lbs. (2.8kg)

#### Interface Connector:

25 pin male D connector

#### HV Output Connector:

Detachable 36" (0.91m) cable provided

#### Regulatory Approvals:

Compliant to EEC EMC Directive. Compliant to EEC Low Voltage Directive. UL/CUL recognized file E148969. RoHS Compliant.

### CZE2000 SELECTION TABLE

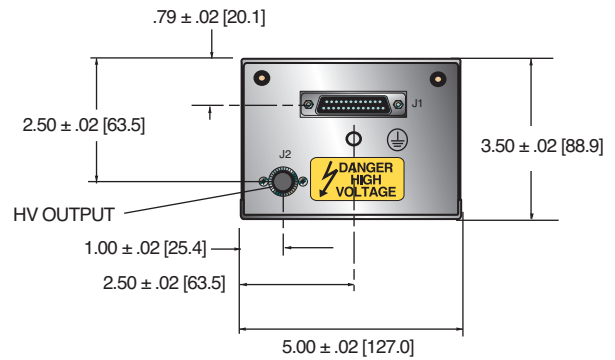
MAXIMUM RATING		MODEL NUMBER
kV	mA	
5	2.0	CZE5PN2000
10	1.0	CZE10PN2000
15	0.67	CZE15PN2000
20	0.50	CZE20PN2000
30	0.30	CZE2000

### CZE2000 25 PIN MALE D CONNECTOR

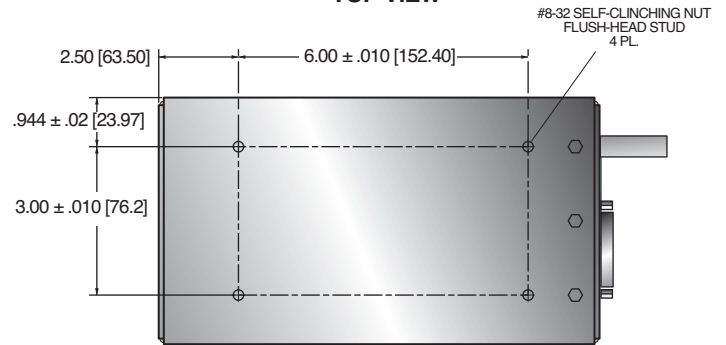
PIN	SIGNAL	PARAMETERS
1	+24Vdc Return	Power Return
2	+24Vdc Return	Power Return
3	+24Vdc Return	Power Return
4	HV Enable/Inhibit	Open or <1Vdc = HV OFF, >3.4Vdc (up to 15Vdc) = HV ON
5	Voltage Test Point	0 to 10Vdc = 0 to 100% rated output, Zout = 10kΩ, 1%
6	Current Test Point	0 to 10Vdc = 0 to 100% rated output, Zout = 10kΩ, 1%
7	Chassis Ground	Ground
8	Remote Voltage Control	0 to 10Vdc = 0 to 100% Rated Output, Zin = 10MΩ
9	Remote Current Control	0 to 10Vdc = 0 to 100% Rated Output, Zin = 10MΩ
10	+10Vdc Reference Output	+10Vdc, 4mA maximum
11	Signal Return	Signal Return
12	Polarity Control	Open or >3.4Vdc (up to 15Vdc) = Positive Polarity. Grounded or <1Vdc = Negative Polarity
13	Positive Polarity Indicator	+24Vdc sourced through a 100Ω series limiting resistor. +24Vdc = active signal
14	+24Vdc Input	Power Input
15	+24Vdc Input	Power Input
16	Chassis Ground	Ground
17	Negative Polarity Indicator	+24Vdc sourced through a 100Ω series limiting resistor. +24Vdc = active signal
18	I Mode Indicator	Open collector pulled up internally to +15Vdc through 2.7kΩ resistor with a 470Ω limiting resistor in series. Transistor OFF = signal active
19	V Mode Indicator	Open collector pulled up internally to +15Vdc through 2.7kΩ resistor with a 470Ω limiting resistor in series. Transistor OFF = signal active
20	Return Current Test Point	0 to 10Vdc = 0 to 100% rated output current, as measured returned from load. Zout = 10kΩ, 1%
21	Load Return	High Voltage Return Point. Required for GFI circuit functionality
22	Ground Fault Indicator	Open collector pulled up internally to +15Vdc through 4.7kΩ resistor with a 470Ω limiting resistor in series. Transistor OFF = signal active
23	Spare	No Connection
24	Spare	No Connection
25	Spare	No Connection

DIMENSIONS: in.[mm]

#### FRONT VIEW



#### TOP VIEW



#### BOTTOM VIEW

