



- **COMPACT MODELS UP TO 30KV**
- **HIGH STABILITY**
- **LOW RIPPLE AND NOISE**
- **LOCAL AND REMOTE PROGRAMMING**
- **VOLTAGE AND CURRENT MONITORING**
- **ARC AND SHORT CIRCUIT PROTECTED**
- **OEM CUSTOMIZATION AVAILABLE**
- **RoHS COMPLIANT**

[www.spellmanhv.com/manuals/V6](http://www.spellmanhv.com/manuals/V6)

The V6 Series is a family of regulated, fixed output polarity modular high voltage power supplies which provide exceptional performance and value in many applications.

The V6 Series units are fully enclosed and designed for system or bench top operation. A wide range of output voltages, up to 30kV is available.

The output voltage is controlled locally by an internal multi-turn potentiometer. Remote analog voltage or resistance programming capability is included in all models. Analog monitor outputs are also included for remote monitoring of both the high voltage and current outputs.

### TYPICAL APPLICATIONS

Spectrometers  
 CRT Testing  
 Detectors  
 E Beam Systems  
 General Laboratory Usage

### OPTIONS

**RS** RS-232 Interface

### SPECIFICATIONS

#### Input Voltage:

AC Model: 100-240Vac,  $\pm 10\%$ ; 50/60 Hertz; 1 amp  
 DC Model: 24Vdc  $\pm 10\%$ , 2 Amps

#### Voltage Regulation:

Line:  $\pm 0.001\%$  of maximum 90-240Vac input line change  
 $\pm 0.001\%$  of maximum  $\pm 10\%$ Vdc input line change

Load:  $\pm 0.002\%$  of maximum for 0 to maximum rated output current change

#### Current Regulation:

Line:  $\pm 0.05\%$  of maximum current for 90-240Vac input line change  
 $0.05\%$  of maximum current for  $\pm 10\%$  Vdc input change

Load:  $0.1\%$  of maximum current for 0 to maximum rated output voltage change

#### Ripple:

See "model selection" table

#### Temperature Coefficient:

$\leq 50\text{ppm}/^\circ\text{C}$

#### Stability:

$\leq 0.01\%$ /hour,  $0.02\%$  per 8 hours after a 1/2 hour warm up

#### Operating Temperature:

$0^\circ\text{C}$  to  $+50^\circ\text{C}$

#### Storage Temperature:

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

#### Humidity:

20% to 85%RH, non-condensing

#### Local Control:

Internal multi-turn potentiometer for 0 to maximum output voltage ( $\pm 0.2\%$ )

#### Remote Programming:

0 to +5Vdc analog input signal proportional to 0 to maximum rated output. Accuracy is  $\pm(0.1\%$  of setting  $+0.1\%$  of maximum). The programming input impedance is 20 megohms.

#### Voltage Monitor:

0 to +5V proportional to 0 to maximum output voltage. Accuracy is  $\pm(0.1\%$  of reading  $+0.1\%$  of maximum). The monitor impedance is 10 kilohms.

#### Current Monitor:

0 to +5V proportional to 0 to maximum output voltage. Accuracy is  $\pm(2.0\%$  of reading  $+1.0\%$  of maximum). The monitor impedance is 10 kilohms.

#### Enable:

Remote interlock enables (low) disables internally (high) the high voltage output. Signal is normally high and supply will default to a disabled condition.

#### Current Limit:

All units provide short circuit current limiting to less than 110% of the maximum rated output current. Supply is self restoring upon removal of cause limit condition.

#### Arc/Short Circuit:

Short circuit and arc protected; self restoring.

#### Cooling:

Convection cooled

### Output Connector:

Models up to and including 5kV use a Spellman P/N JDK high voltage connector. The required mating connector is a Spellman P/N PDB (MHV Type UG-932/U), which is not included. The 10kV through 20kV units use a Spellman P/N JGA high voltage connector (Alden 8101). All 10 through 30kV units are provided with mating connectors assembled to 1.5 meters of high voltage cable. For models up to 5kV, a preassembled HV cable must be purchased separately.

### Dimensions:

AC Model: 3.05" W X 5.1" H X 7.06" D  
(77mm X 132mm X 179mm)

DC Model: 2.32" W X 5.1" H X 7.06" D  
(59mm X 132mm X 179mm)

### Weight:

AC Model: 4.5 pounds (2.0kg)

DC Model: 3.75 pounds (1.7kg)

### Regulatory Approvals:

RoHS Compliant

### V6A ANALOG/DIGITAL INTERFACE— J1 15 PIN FEMALE D CONNECTOR

PIN	SIGNAL	SIGNAL PARAMETERS
1	Local Voltage Program	Multi-turn front panel potentiometer
2	TX Out (optional)	RS232 Receive Data
3	RX In (optional)	RS232 Transmit Data
4	Voltage Program Input	0 to 5V=0 to 100% Rated Output, Zin=20MΩ
5	Signal Ground	RS232 Ground (optional)
6	Signal Ground	Ground
7	+5V Reference Out	+5V @ 1mA Max.
8	HV Enable Input	Active Low to Enable the HV
9	Current Program Input	0 to 5V=0 to 100% Rated Output, Zin=20MΩ
10	Current Monitor	0 to 5V=0 to 100% Rated Output, Zout=10kΩ
11	Voltage Monitor	0 to 5V=0 to 100% Rated Output, Zout=10kΩ
12	HV Enable Output	Active Low HV is Enabled
13	Signal Ground	Ground
14	N/C	No Connection
15	N/C	No Connection

### V6D ANALOG/DIGITAL INTERFACE— J1 15 PIN FEMALE D CONNECTOR

PIN	SIGNAL	SIGNAL PARAMETERS
1	Local Voltage Program	Multi-turn front panel potentiometer
2	TX Out (optional)	RS232 Receive Data
3	RX In (optional)	RS232 Transmit Data
4	Voltage Program Input	0 to 5V=0 to 100% Rated Output, Zin=20MΩ
5	Signal Ground	RS232 Ground (optional)
6	Signal Ground	Ground
7	+5V Reference Out	+5V @ 1mA Max.
8	HV Enable Input	Active Low to Enable the HV
9	Current Program Input	0 to 5V=0 to 100% Rated Output, Zin=20MΩ
10	Current Monitor	0 to 5V=0 to 100% Rated Output, Zout=10kΩ
11	Voltage Monitor	0 to 5V=0 to 100% Rated Output, Zout=10kΩ
12	HV Enable Output	Active Low HV is Enabled
13	+24V Return	Input Voltage Return
14	+24Vdc Input	Input Voltage 24V±10%, 2A
15	+24Vdc Input	Input Voltage 24V±10%, 2A

### V6A MODEL SELECTION TABLE

V6 AC Series	Voltage	Current	Ripple
V6A1*30	0 to 1kV	0 to 30mA	15mV
V6A1.5*30	0 to 1.5kV	0 to 20mA	15mV
V6A3*30	0 to 3kV	0 to 10mA	30mV
V6A5*30	0 to 5kV	0 to 6mA	50mV
V6A10*30	0 to 10kV	0 to 3mA	200mV
V6A15*30	0 to 15kV	0 to 2mA	450mV
V6A20*30	0 to 20kV	0 to 1.5mA	800mV
V6A30*30	0 to 30kV	0 to 1mA	1.8 volts

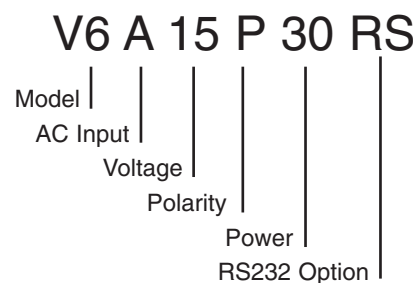
\*Specify "P" for positive polarity or "N" for negative polarity

### V6D MODEL SELECTION TABLE

V6 DC Series	Voltage	Current	Ripple
V6D1*30	0 to 1kV	0 to 30mA	15mV
V6D1.5*30	0 to 1.5kV	0 to 20mA	15mV
V6D3*30	0 to 3kV	0 to 10mA	30mV
V6D5*30	0 to 5kV	0 to 6mA	50mV
V6D10*30	0 to 10kV	0 to 3mA	200mV
V6D15*30	0 to 15kV	0 to 2mA	450mV
V6D20*30	0 to 20kV	0 to 1.5mA	800mV
V6D30*30	0 to 30kV	0 to 1mA	1.8 volts

\*Specify "P" for positive polarity or "N" for negative polarity

### ORDERING EXAMPLE



USA +1-631-630-3000  
 UK +44 (0)1798 877000  
 JAPAN +81 (0)48-447-6500  
 CHINA +86 (0)512-67630010

FAX: +1-631-435-1620  
 FAX: +44 (0)1798 872479  
 FAX: +81 (0)48-447-6501  
 FAX: +86 (0)512-67630030

e-mail: sales@spellmanhv.com  
 www.spellmanhv.com

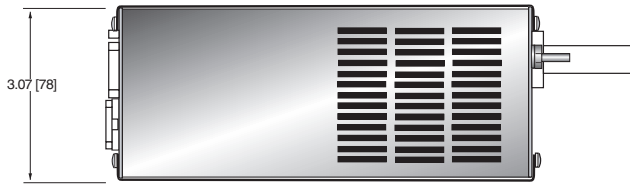
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Spellman High Voltage is an ISO 9001:2000 and ISO 14001:2004 registered company

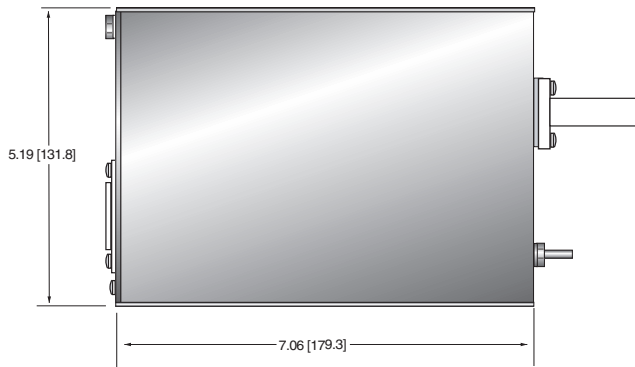
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#### V6-AC

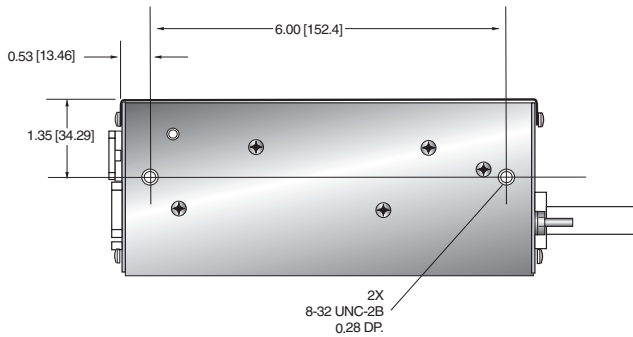
TOP VIEW



SIDE VIEW



BOTTOM VIEW



FRONT VIEW



BACK VIEW

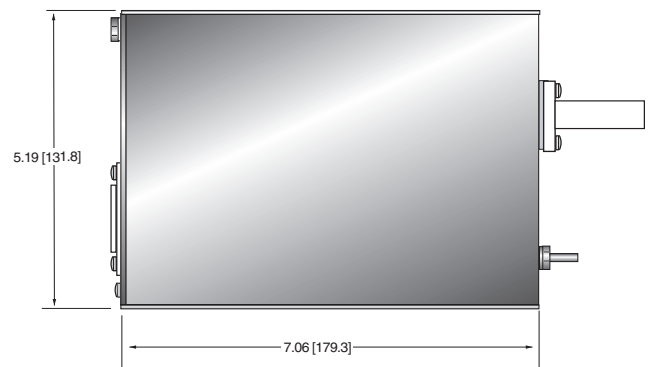


#### V6-DC

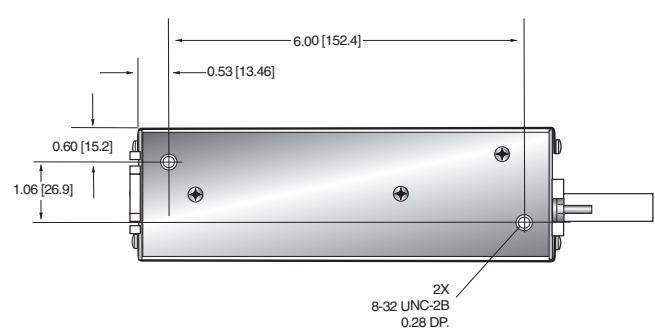
TOP VIEW



SIDE VIEW



BOTTOM VIEW



FRONT VIEW



BACK VIEW

