

HIGH VOLTAGE MODULES

PHOTO MULTIPLIER TUBES

SOLID STATE DETECTORS

FLOW SENSORS

SPECTRAL SOURCE LAMPS

INK JET PRINTERS

GAS CHROMATOGRAPHY

SPECTROMETERS

ELECTROSTATIC PRINTING

NUCLEAR INSTRUMENTS

SCINTILLATORS

MASS SPECTROMETRY

ELECTRON AND ION BEAM

CRT TESTING

ELECTROPHORESIS

CABLE TESTING

DETECTOR ARRAYS

E-BEAM SYSTEMS

CAPACITOR CHARGING SYSTEMS

ELECTROSPINNING

LABORATORY APPLICATIONS

ION SOURCE

www.spellmanhv.com

MODULE SPECIFIER



MM 300V—15kV

Input: 9, 12, or 24Vdc
Ripple: <0.2% p-p
Dims.: See Data Sheet. Sizes From 0.79"H x 1.57"W x 1.57"D
 20mm x 40mm x 40mm

- **COMPACT SIZE**
- **LOW COST**
- **ARC AND SHORT CIRCUIT PROTECTION**
- **POSITIVE OR NEGATIVE OUTPUTS**
- **OEM CUSTOMIZATION AVAILABLE**

Spellman's MM Series of high voltage power supplies are low cost, general purpose proportional, dc to dc converters with output voltages up to 15kV.

They are designed for direct PCB mounting. These highly reliable, compact and lightweight modular blocks are intended for customer designed products at power levels up to 2.5W.



MS 300V—3kV

Input: 12Vdc $\pm 1V$
Load Reg.: <0.05%
Line Reg.: <0.005%
Ripple: <0.01% p-p
Dims.: See Data Sheet. Sizes From 0.87"H x 2.1"W x 3.1"D
 23mm x 53mm x 78mm

- **LOW COST**
- **REMOTE CONTROL**
- **POSITIVE OR NEGATIVE POLARITY**
- **ARC AND SHORT CIRCUIT PROTECTED**
- **LOW STORED ENERGY**
- **HIGH RELIABILITY**

Spellman's MS Modules have been designed for printed circuit board mounting with high reliability, small size and light weight. Each module provides 3W of output power to 3kV with well regulated low ripple, high stability and high voltage in a versatile, compact cost-effective design.



PMT 500V—10kV

Input: 24Vdc to 36Vdc
Load Reg.: $\pm 0.001\%$
Line Reg.: $\pm 0.001\%$
Ripple: as low as 2mV
Dims.: 3.87"H x 1.25"W x 6.31"D
 98mm x 32mm x 160mm

- **LOW NOISE & RIPPLE**
- **LOW COST MODULAR DESIGN**
- **EXCELLENT STABILITY & REGULATION**
- **ARC AND SHORT CIRCUIT PROTECTED**

Our Bertan brand of PMT modular high voltage power supplies offer well regulated, fixed polarity outputs up to 10kV, which operate off a low voltage DC input voltage. These fully enclosed modules are specifically designed with proprietary linear power conversion techniques to provide exceptionally low ripple and noise. The PMT is ideal for precision applications including: photomultiplier tubes, solid state detectors and ultrasonic transducers.



605C 1kV—20kV

Input: 28Vdc $\pm 10\%$
Load Reg.: $\pm 0.002\%$
Line Reg.: $\pm 0.001\%$
Ripple: as low as 15mV
Dims.: 5.0"H x 2.75"W x 4.75"D
 128mm x 70mm x 121mm

- **DC INPUT MODULAR POWER SUPPLY**
- **EXCELLENT REGULATION**
- **VERY LOW RIPPLE**
- **ARC AND SHORT CIRCUIT PROTECTED**

Spellman's Bertan brand of 605C modular high voltage power supplies offer well regulated, fixed polarity outputs up to 20kV, which operate off a +28Vdc input (+24Vdc optional). These fully enclosed modules are designed for bench top or OEM applications like spectrometers, detectors, imaging and electron beam usage.

The output voltage can be controlled by a local internal potentiometer or by a customer provided ground referenced signal for remote operation.



V-PAK 1kV—10kV

Input: 24Vdc $\pm 0.5Vdc$
Load Reg.: $\leq 0.001\%$
Line Reg.: $\leq 0.001\%$
Ripple: as low as 5mV
Dims.: 0.79"H x 2.75"W x 2.75"D
 20mm x 7mm x 70mm

- **ULTRA COMPACT FOOTPRINT**
- **OUTPUT VOLTAGE CONTROL**
- **HIGH STABILITY**
- **ULTRA LOW RIPPLE AND NOISE**
- **10V PRECISION REFERENCE**

Spellman's V-Pak Series are high performance 10W high voltage power supplies offering a variable output voltage up to 10kV. These small modules achieve extreme ruggedness and reliability with excellent long term stability with low ripple and noise characteristics. Additionally, the V-Pak features a differential amplifier input for the voltage programming signal.



MPS 1kV—20kV

Input: 24Vdc $\pm 2Vdc$
Load Reg.: $\leq 0.001\%$
Line Reg.: $\leq 0.001\%$
Ripple: as low as 10mV
Dims.: Sizes From 1.18"H x 2.75"W x 5.12"D
 30mm x 70mm x 130mm

- **OPTIONAL RS232/RS485 CONTROL**
- **VOLTAGE AND CURRENT CONTROLS**
- **VOLTAGE AND CURRENT MONITORS**
- **HIGH STABILITY**
- **ULTRA LOW RIPPLE AND NOISE**
- **HIGH VOLTAGE ENABLE CONTROL**

The MPS Series are high performance products designed with Spellman's hybrid topology of linear and switch mode power conversion techniques delivering lower noise with higher efficiency. The MPS Series produces excellent ripple and stability performance specifications. Additionally the MPS Series features, as standard, a differential amplifier input for the voltage programming signal.





Input: 24Vdc ± 0.5 Vdc
Load Reg.: 0.001%
Line Reg.: 0.001%
Ripple: 0.001% p-p
Dims.: Sizes From
 1.65"H x 3.86"W x 6.61"D
 42mm x 98mm x 148mm



- **ARC AND SHORT CIRCUIT PROTECTED**
- **10V REFERENCE OUTPUT FOR EXTERNAL CONTROL**
- **HIGH STABILITY**
- **MODELS TO 40kV**

The MP Series has been designed as high performance dc to dc converters with output voltages up to 40kV.

Each module provides well regulated, low ripple and high stability high voltage in a highly versatile compact design, combining linear and switched mode techniques to minimize internal dissipation and generated EMI/RFI interference.

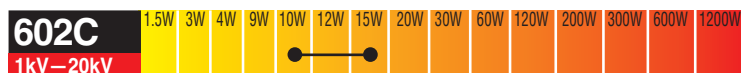


Input: 115Vac, 230Vac $\pm 10\%$
Load Reg.: $\leq 0.005\%$
Line Reg.: $\leq 0.002\%$
Ripple: as low as 10mV
Dims.: 7.63"H x 5.03"W x 8.91"D
 194mm x 128mm x 226mm



- **MODULAR BENCH TOP DESIGN**
- **LOW RIPPLE AND NOISE**
- **REVERSIBLE OUTPUT POLARITY**

The low noise, linear topology employed results in extremely low output ripple specifications. These 12 to 15 watt units are inherently reversible by design, providing either positive or negative output polarity. The 230 Series is fully arc and short circuit protected. Excellent regulation specifications are featured along with outstanding stability performance.



Input: 115Vac, 230Vac $\pm 10\%$
Load Reg.: $\pm 0.002\%$
Line Reg.: $\pm 0.001\%$
Ripple: as low as 15mV
Dims.: 5.0"H x 3.1"W x 8.7"D
 128mm x 78mm x 220mm



- **AC INPUT MODULAR POWER SUPPLY**
- **EXCELLENT REGULATION**
- **VERY LOW RIPPLE**
- **ARC AND SHORT CIRCUIT PROTECTED**

Spellman's Berton brand of 602C modular high voltage power supplies offer well regulated, fixed polarity outputs up to 20kV. These fully enclosed modules are designed for bench top or OEM applications such as spectrometers, detectors, imaging and electron beam usage.

The output voltage can be controlled by either a local internal potentiometer or by a customer provided ground referenced signal for remote operation.



Input: 24Vdc ± 2 Vdc
Load Reg.: $\leq 0.001\%$
Line Reg.: $\leq 0.001\%$
Ripple: as low as 25mV
Dims.: Sizes From
 1.31"H x 3.74"W x 5.91"D
 35.5mm x 95mm x 150mm



- **HIGH STABILITY**
- **ULTRA LOW RIPPLE AND NOISE**
- **ARC AND SHORT CIRCUIT PROTECTED**
- **HIGH VOLTAGE ENABLE CONTROL**

The MPS20W Series are high performance products designed with Spellman's hybrid topology of linear and switch mode power conversion techniques delivering lower noise with higher efficiency. Additionally the MPS20W Series features, as standard, a differential amplifier input for the voltage programming signal to improve immunity from external system noise and addressing any offset issues.



Input: 115Vac, 230Vac $\pm 10\%$
Load Reg.: $\pm 0.002\%$
Line Reg.: $\pm 0.001\%$
Ripple: as low as 15mV
Dims.: 5.0"H x 5.5"W x 8.5"D
 128mm x 140mm x 216mm



- **AC INPUT MODULAR POWER SUPPLY**
- **EXCELLENT REGULATION**
- **VERY LOW RIPPLE**
- **ARC AND SHORT CIRCUIT PROTECTED**

These fully enclosed modules are designed for bench top or OEM applications like spectrometers, detectors, imaging and electron beam usage.

The output voltage can be controlled by either a local internal potentiometer or by a customer provided ground referenced signal for remote operation. A high voltage enable signal input allows for remote control of the supply.



Input: 28Vdc, 24Vdc $\pm 10\%$
Load Reg.: $\pm 0.002\%$
Line Reg.: $\pm 0.001\%$
Ripple: as low as 15mV
Dims.: 5.0"H x 5.5"W x 4.7"D
 128mm x 140mm x 121mm



- **DC INPUT MODULAR POWER SUPPLY**
- **EXCELLENT REGULATION**
- **VERY LOW RIPPLE**
- **ARC AND SHORT CIRCUIT PROTECTED**

Spellman's Berton brand of 606C modular high voltage power supplies offer well regulated, fix polarity outputs up to 30kV. These fully enclosed modules are designed for bench top or OEM applications like spectrometers, detectors, imaging and electron beam usage.



Input: 24Vdc $\pm 10\%$
Load Reg.: 0.02%
Line Reg.: 0.01%
Ripple: 0.1% p-p
Dims.: 2.0"H x 5.7"W x 5.7"D
 51mm x 145mm x 145mm



- **COMPACT PACKAGE**
- **TEST POINTS FOR OUTPUT CURRENT AND VOLTAGE**
- **OVERVOLTAGE PROTECTION**
- **OEM CUSTOMIZATION AVAILABLE**

The EPM Series of power supplies utilize proprietary circuitry which yields full output current from near zero to maximum output voltage. Current regulation is standard on all models and is particularly valuable in applications that require a current source into the load.



Input: 12Vdc, 24Vdc
Load Reg.: $< 0.01\%$
Line Reg.: $< 0.01\%$
Ripple: as low as 0.006% p-p
Dims.: 2.96"H x 1.49"W x 0.81"D
 75.2mm x 37.9mm x 20.6mm



- **FIXED NEGATIVE OR POSITIVE POLARITY**
- **VOLTAGE/CURRENT REGULATION WITH AUTOMATIC CROSSOVER CONTROL**
- **HV ENABLE CONTROL SIGNAL**
- **ARC AND SHORT CIRCUIT PROTECTED**

Spellman's UM Series of printed circuit board mountable, high voltage modules offer a form, fit and function replacement for presently available commercially made units. Utilizing proprietary power conversion technology, unique high voltage packaging, and Spellman's unmatched encapsulation techniques, these SMT based high voltage modules provide improved performance and easier system integration.

SMS 1kV—60kV

Input: 24Vdc $\pm 10\%$
 Load Reg.: 0.01%
 Line Reg.: $\pm 0.01\%$
 Ripple: 0.1% p-p
 Dims.: 3"H x 5"W x 9"D
 76mm x 127mm x 230mm



- **LOW STORED ENERGY**
- **TEST POINTS FOR OUTPUT CURRENT AND VOLTAGE**
- **INHIBIT CONTROL OF OUTPUT VIA TTL SIGNAL**
- **OEM CUSTOMIZATION AVAILABLE**

Spellman's SMS Series is based on a resonant flyback circuit that provides over 80% efficiency and high pulse current capability. Featuring voltage and current regulation with automatic crossover, the SMS is arc and short circuit protected.

UMW 8kV—20kV

Input: 24Vdc
 Load Reg.: $<0.01\%$
 Line Reg.: $<0.01\%$
 Ripple: $<1\%$ p-p
 Dims.: 8"H x 4.5"W x 1.075"D
 203mm x 114mm x 27mm



- **VOLTAGE/CURRENT REGULATION WITH AUTOMATIC Crossover CONTROL**
- **PRECISION +5V REFERENCE OUTPUT**
- **HV ENABLE CONTROL SIGNAL**

Spellman's UMW Series of high voltage modules provides users with a form, fit and function replacement for presently available commercially made units, while providing superior features and benefits at competitive pricing. These SMT based high voltage modules provide improved performance and easier system integration at a lower cost when compared to the competition.

PCM 1kV—70kV

Input: 85-265Vac
 Load Reg.: 0.01%
 Line Reg.: $<0.01\%$
 Ripple: 0.1% p-p
 Dims.: 3.65"H x 5"W x 9"D
 92mm x 127mm x 228mm



- **POWER FACTOR CORRECTED**
- **TEST POINTS FOR OUTPUT CURRENT AND VOLTAGE**
- **POWER ON, INTERLOCK CLOSED AND FAULT INDICATORS**
- **OEM CUSTOMIZATION AVAILABLE**

Spellman's PCM Series of high voltage power supplies are well regulated with output voltages from 1kV to 70kV. These supplies feature universal AC input and power factor correction. They are designed with a resonant circuit that provides high efficiency and high pulse current capability up to 400W peak.

825 500V—50kV

Input: 90-135Vac
 185-265Vac $\pm 10\%$
 Load Reg.: $\pm 0.02\%$
 Line Reg.: $\pm 0.01\%$
 Ripple: 0.1% p-p
 Dims.: 10"H x 3.19"W x 10.75"D
 254mm x 81mm x 273mm



- **MODULAR BENCH TOP DESIGN**
- **115/220 VAC SWITCHABLE**
- **DIFFERENTIAL INPUT PROGRAMMING**

Spellman's Berton brand of 825 Series high voltage power supplies provide well-regulated, fixed polarity outputs that operate off a standard switch-selectable 115/230Vac input. The 825 Series is fully arc and short circuit protected. Excellent regulation specifications are featured along with outstanding stability performance.

835 500V—50kV

Input: 90-135Vac
 185-265Vac $\pm 10\%$
 Load Reg.: $\pm 0.02\%$
 Line Reg.: $\pm 0.01\%$
 Ripple: 0.1% p-p
 Dims.: 10"H x 5"W x 11"D
 254mm x 127mm x 279mm



- **MODULAR BENCH TOP DESIGN**
- **115/220 VAC SWITCHABLE**
- **DIFFERENTIAL INPUT PROGRAMMING**

Spellman's Berton brand of 835 Series high voltage power supplies provide well-regulated, fixed polarity outputs from 500 to 50kV that operate off a standard switch-selectable 115/230Vac input. The 835 Series is fully arc and short circuit protected. Excellent regulation specifications are featured along with outstanding stability performance.

SLM 1kV—70kV

Input: 90-264Vac, 300/600W
 180-264Vac, 1200W
 Load Reg.: $\leq 0.01\%$
 Line Reg.: $\leq 0.01\%$
 Ripple: $\leq 0.2\%$ p-p
 Dims.: 4.75"H x 6"W x 12"D
 120mm x 152mm x 305mm



- **COMPACT & LIGHTWEIGHT**
- **UNIVERSAL INPUT, POWER FACTOR CORRECTED**
- **LOW COST MODULAR DESIGN**
- **STANDARD DIGITAL INTERFACES: USB, ETHERNET AND RS-232**

Spellman's SLM Series of high voltage modules are designed for OEM applications up to 70kV at 1200 watts. Its universal input, small package size and choice of three standard digital interfaces simplifies integrating the SLM into your system design. Models are available in either positive or negative polarity. The SLM is fully arc and short circuit protected.



UNITED STATES

Spellman USA and Corporate HQ
 475 Wireless Blvd.
 Hauppauge, NY 11788
 United States
 tel: +1-631-630-3000
 fax: +1-631-435-1620
 e-mail: sales@spellmanhv.com

Spellman USA
 One Commerce Park
 Valhalla, NY 10595
 Tel: 914-686-3600
 Fax: 914-686-5424

EUROPE

Spellman Ltd.
 Broomers Park, Unit #14
 Broomers Hill Lane, Pulborough
 West Sussex, RH20 2RY
 England
 tel: +44(0) 1798 877000
 fax: +44(0) 1798 872479
 e-mail: sales@spellmanhv.co.uk

JAPAN

Spellman Japan
 4-3-1 Kamitoda
 Toda-shi
 Saitama-ken, Japan 335-0022
 tel: +81(0) 48-447-6500
 fax: +81(0) 48-447-6501
 e-mail: sales@spellmanhv.co.jp

CHINA

Spellman China
 Spellman (SIP) Co., Ltd.
 No. 5 Xingnan Street
 Block A #2-03/08
 Suzhou Industrial Park,
 China, 215021
 tel: +86- 512-69006010
 fax: +86- 512-67630030
 e-mail: sales@spellmanhv.cn

MEXICO

Spellman Mexico
 Diagonal Lorenzo de la Garza no.65
 H. Matamoros, Tamaulipas
 Mexico