



- **1-50kV @ 15-30W**
- **Standard Rack Mounted Design**
- **Low Ripple and Noise**
- **Digital Metering**
- **Reversible Output Polarity**

www.spellmanhv.com/manuals/205B

Spellman's Bertan brand of 205B Series high voltage power supplies provide regulated high voltage outputs from 1 to 50kV. The low noise, linear topology employed results in extremely low output ripple specifications. These 15 to 30W units are inherently reversible by design, providing either positive or negative output polarity. The 205B is fully arc and short circuit protected. Excellent regulation specifications are featured along with outstanding stability performance.

TYPICAL APPLICATIONS

HiPot Testing
CRT Testing
Electrostatics
E Beam Systems
General Laboratory Usage

OPTIONS

RF Isolated (Floating) Output

SPECIFICATIONS

Input Voltage:

115Vac, $\pm 10\%$, 50/60Hz @ 1A
230Vac, $\pm 10\%$, 50/60Hz @ 0.5A
Input voltage is switch selectable

Output Voltage:

See "model selection" table

Output Polarity:

All units are reversible polarity by design

Output Current:

See "model selection" table

Voltage Regulation:

Line: $\leq 50\text{ppm}/0.001\%$ of rated output voltage over specified input voltage range
Load: $\leq 0.005\%$ of rated output voltage for a full load change

Current Regulation:

Internally set to limit at 105% of rated current at full output voltage. Maximum output current at any other voltage setting must be derated linearly down to 30% of maximum at zero output voltage.

Ripple:

See "model selection" table

Temperature Coefficient:

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

Stability:

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

Accuracy:

Current Monitor: $\pm(0.5\%$ of reading + 0.25% of maximum)
Remote Programming: $\pm(0.1\%$ of setting + 0.1% of maximum)
Voltage Monitor: $\pm(0.1\%$ of reading + 0.1% of maximum)
Front Panel Meter: Voltage $\pm(0.1\%$ of setting + 0.1% of maximum)
Current: $\pm(0.25\%$ of setting + 0.25% of maximum)
Front Panel Control: $\pm(0.25\%$ of setting + 0.05% of maximum)

Operating Temperature:

0°C to $+50^\circ\text{C}$

Storage Temperature:

-40°C to $+85^\circ\text{C}$

Humidity:

20% to 85%RH, non-condensing

Input Line Connector:

IEC320 EMI filter/ input connector, a detachable line cord is provided

Interface Connector:

9 pin "D" connector, a mating connector is provided

Output Connector:

A detachable 10 foot (3 meter) long HV cable is provided

Cooling:

Convection cooled

Dimensions:

1-20kV: 19.0" W X 3.5" H X 9.625" D
(483mm X 89mm X 244mm)
30-50kV: 19.0" W X 5.25" H X 16.0" D
(483mm X 133mm X 406mm)

Weight:

$\leq 20\text{lbs}$ (9.1kg) up to and including 20kV units,
 $\leq 35\text{lbs}$ (15.9kg) for 30kV and 50kV units

Regulatory Approvals:

Compliant to EEC EMC conducted emissions, dip and surge.

Electronic Component (Power Source)

205B series is intended for installation as a component of a system.

It is designed to meet CE standards, with conditions of acceptance often being: customer provided enclosure mounting, EMC filtering, and appropriate protection, and isolation devices. The 205B series is not intended to be operated by end users as a stand-alone device. The 205B series power supply can only be fully assessed when installed within a system, and as a component part within that system.

MODEL SELECTION TABLE

205B Series	Voltage	Current	Ripple
205B-01R	0 to 1kV	0 to 30mA	10mV
205B-03R	0 to 3kV	0 to 10mA	30mV
205B-05R	0 to 5kV	0 to 5mA	50mV
205B-10R	0 to 10kV	0 to 2.5mA	100mV
205B-20R	0 to 20kV	0 to 1mA	300mV
205B-30R	0 to 30kV	0 to 0.5mA	400mV
205B-50R	0 to 50kV	0 to 0.3mA	2V

INTERFACE CONNECTOR

PIN	SIGNAL	PARAMETERS
1	Voltage Monitor	0 to 5Vdc = 0 to 100% rated voltage, $Z_{out} = 10K\Omega$
2	N/C	No Connection
3	Enable	TTL "0" disables HV, TTL "1" or open enables HV
4	+5Vdc Reference	+5.0Vdc @ 10mA, maximum
5	Current Monitor	0 to 5Vdc = 0 to 100% rated current, $Z_{out} = 10K\Omega$
6	Voltage Program Input	0 to 5Vdc = 0 to 100% rated voltage, $Z_{in} = 1M\Omega$
7	Analog Ground	Ground
8	Digital Ground	Ground (for use only with 200-C488, sold separately)
9	Polarity Indicator	Open collector, 30V @ 25mA, positive = ON

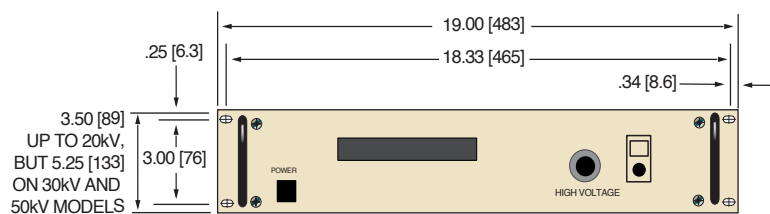
OPTIONS:

Isolated (Floating) Output-Option RF

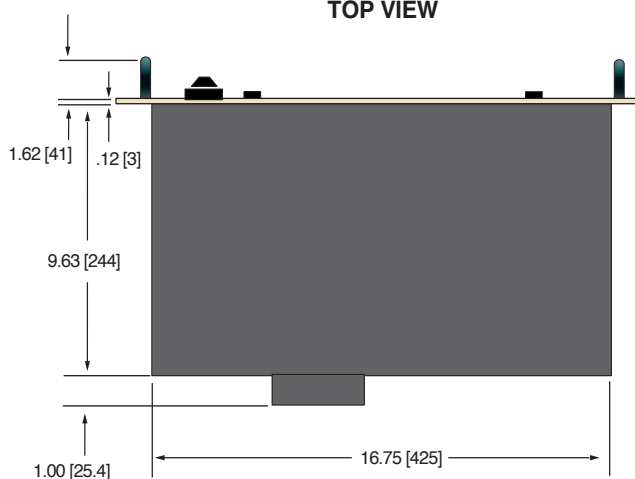
Units can be provided with the output capable of floating up to $\pm 2kV$ from ground. All controls, programming and monitoring functions are normally referenced to ground. The high voltage output polarity with respect to the floating input terminal is reversible. Floating input connector is Spellman P/N JDK. Mating connector is provided with each unit (Spellman P/N PDB, MHV type UG-932/U). Replace "R" suffix with "RF" for this option.

DIMENSIONS: in.[mm]

FRONT VIEW



TOP VIEW



BACK VIEW

