



8000 Series

High Voltage PSU



Specification Summary

The Genvolt 8000 series is a rugged modularised range of AC-input DC High Voltage supplies, designed to operate from a universal mains input from 85VAC to 256VAC 50/60Hz. Power Output options from 1kV to 70kV. They feature an active boost-style Power Factor Correction front end – i.e. an active rectifier. This offers a very low harmonic distortion at mains frequencies with a power factor of up to 0.99.

The modules have a FIXED polarity output which should be specified at the time ordering using the “Model Finder” table.

They operate in both Voltage Control and Current Control modes with fast active crossover between the modes.

Protection against output short circuits or arcs, over temperature and output overvoltage allow for operation in demanding environments

Standard Features, as fitted at the factory

Control	Logic level for high voltage enable/disable
Overvoltage Protection	An overvoltage protection circuit monitors the output for excessive voltage generation. Overvoltage conditions can be caused by excessive input program signal. If an overvoltage condition is detected, the power supply is latched off until input power is reset.
PS Fault Condition	A PS fault indicator and a PS fault output on J1, indicate an OVP or a regulation error.
PF and Universal Input	The input voltage of the 8000 can operate within the range from 85VAC to 265VAC. The power factor is actively corrected across the entire range and is better than 0.99 at full load.
Internal EMI Filter	An internal EMI filter and fuse provide protection against line voltage surges and power supply faults.

Specification

AC input voltage range	85VAC to 256VAC, 47 – 63 Hz
Power Factor	FL 0.99 NL 0.98
Output Polarity	+ve or –ve (Please specify when ordering)
Voltage Load Regulation	0.01% of full voltage for a no load to a full load change
Voltage Line Regulation	+/- 0.005% of full voltage over the specified input voltage range
Current load regulation	0.01% from 0V to full voltage
Current line regulation	+/- 0.01% of full current over the specified input voltage range per 8 hours after
Voltage ripple	0.1% p-p of output voltage
Current stability	0.02% per 8hrs after ½hr warm up
Temperature coefficient	100 ppm per °C
Temperature	Operating 0°C to 45°C Storage -20°C to +85°C
Interlock	Open Interlock will shut down unit
Circuit Protection	Overvoltage, Overcurrent, Arcing and Over temperature
Relative Humidity	Non condensing

The control signal is NOT a safety interlock and must NOT be used for a protection system from high voltage generation for safety purposes.

Remote Operating Features

Remote Programming	Allows remote adjustment of the output voltage and current, via an external voltage source.
Remote Monitor	Allows remote monitoring of the output voltage and current.
High Voltage Enable / Disable	Allows remote ON/OFF control of the high voltage.
+10VDC Reference	A +10VDC is provided for remote programming via a potentiometer or voltage divider.



Mechanical details

Weight	Model specific, approximately 3Kg
Dimensions	95.25mm (H) x 127mm (W) x 279.4mm (D)
Power input connector	IEC320 with mating connector x 2 Metres
HV output connector	Proprietary HV Connector
Control interface connector	15 pin 'D' connector (Male)

Typical Applications Include:

- Electrospinning & Electrospraying
- X-ray generation
- Insulation Testing
- Capacitor charging (Contact Genvolt for individual applications)
- Laboratory Use

Regulatory Approvals

- Compliant to 2004/108/EC, the EMC directive
- 2006/95/EC, the low voltage directive
- RoHS compliant and CE approved

Maximum Voltage	Maximum Current	Polarity	Model Number
1kV	120mA	P or N	80120P (+ve) or 80120N (-ve)
5kV	24mA	P or N	8024P (+ve) or 8024N (-ve)
10kV	12mA	P or N	8012P (+ve) or 8012N (-ve)
20kV	6mA	P or N	806P (+ve) or 806N (-ve)
30kV	4mA	P or N	804P (+ve) or 804N (-ve)
40kV	3mA	P or N	803P (+ve) or 803N (-ve)
50kV	2.4mA	P or N	8050P (+ve) or 8050N (-ve)
60kV	2mA	P or N	8060P (+ve) or 8060N (-ve)
70kV	1.7ma	P or N	8070P (+ve) or 8070N (-ve)