

HITEK POWER MV3000 SERIES

MEDIUM-VOLTAGE HIGH CURRENT POWER SUPPLIES



The HiTek Power® MV3000 series high performance, medium output voltage power supplies feature a wide output range for OEM and industrial applications. The MV3000 meets the exacting requirements found in electron beam, ion beam, chemical purification systems, magnet drivers, and other 24/7 production processes.

PRODUCT HIGHLIGHTS

- 3 kW output power
- Output voltages from 100 to 300 V available with customer-defined derivatives upon request
- Parallel/series operation
- High stability
- Exceptional reliability
- Full local and remote control monitoring
- Voltage or current control
- High packing density: 3 kW in 2U
- Stackable, cooling is front to rear
- Active power factor correction
- CE marked for EU LV Directive 2006/95/EC
- Custom options available

TYPICAL APPLICATIONS

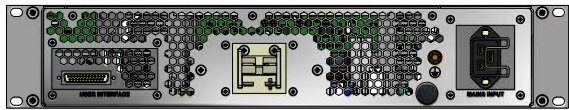
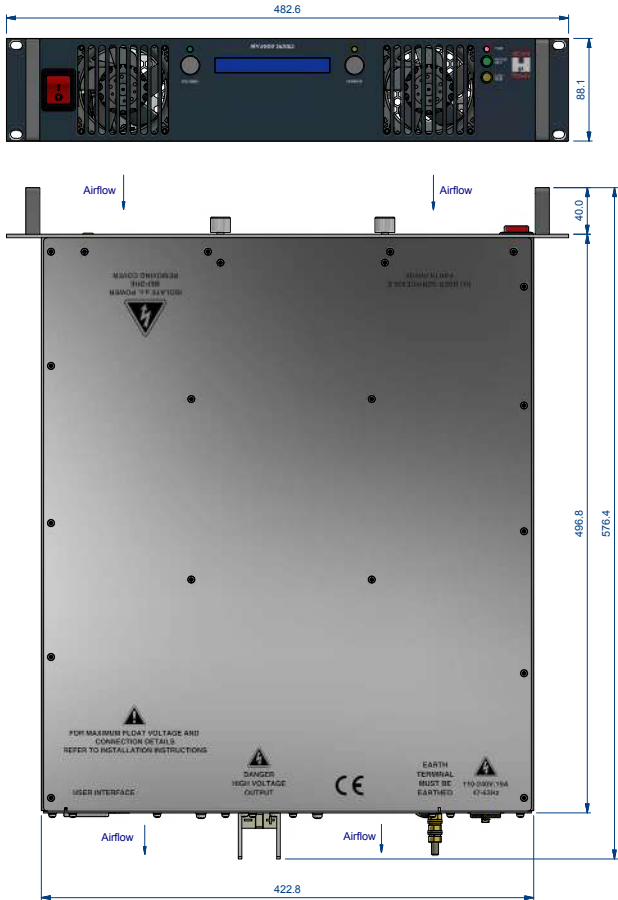
- Electron beam
- Ion beam
- X-ray
- Laser diodes
- HV pulse generator bias
- HV amplifier bias
- Magnet bias
- Chemical purification
- Test and measurement
- Automated test
- Heating
- Semiconductor processing

ELECTRICAL SPECIFICATIONS

Output Power	3 kW at max output voltage and current
Output Voltage	100 to 300 V
Output Current	10 to 30 A depending on output voltage
Input Voltage	185 to 255 VAC 47 to 63 Hz single phase plus protective earth, operation below 185 VAC is possible with power derating down to 1500 W at 85 VAC
Input Current	Not exceeding 19 ARMS, harmonics are controlled with active power factor correction
Polarity	All models provide positive polarity. The output can be isolated from the chassis to provide negative outputs if required. Control signals are referenced to the negative output.
Output Ripple	Voltage mode: < 0.1% peak to peak of rated output voltage +50 mV peak to peak
Current Mode	< 0.2% peak to peak of rated output current +50 mA peak to peak
Line Regulation	< 0.05% deviation in output voltage set point for a 10% change in supply line voltage
Load Regulation	Current mode: < 0.1% deviation in output current set point for a 0 to 100% change in output voltage Voltage mode: < 0.1% deviation in output voltage set point for a 0 to 100% change in load current
Transient Response	Response for a 10% to 90% or 90% to 10% step change in load. Overshoot/undershoot < 2% of rated output. Recovery to within 0.1% of rated output < 10 ms.
Temperature Coefficient	100 ppm/°C
Drift	< 0.5% per 8 h after 1 h warmup
Protection	Over temperature Output overvoltage (tracking demand available) Output overcurrent (tracking demand available) Fan failure Input undervoltage
Operating Temperature	0 to +40°C (32°F to 140°F) ambient and air intake
Storage Temperature	-20 to +85°C (-4°F to 185°F)
Humidity	80% max relative humidity up to 31°C, decreasing linearly to 50% at 40°C
Altitude	Sea level to 2000 m (6500')
Usage	Indoor use only
Installation Category	II (BSEN 61010)
Pollution Degree	2 (BSEN 61010)
Metering	Provided as part of an alphanumeric display. Voltage meter reads 0 V to full output; resolution is < 0.5% of rated output. Current meter reads 0 A to full output; resolution is < 1.5% of rated output. Set point voltage (current) is displayed when the voltage (current) control knob is depressed.
Status Indication	If a trip occurs, the V and A information will be overwritten by the cause of the trip which may be one of:- 'OVER VOLTAGE', 'OVER TEMPERATURE', 'OVER CURRENT', 'USER I/L OPEN', or 'LOOP CONTROL'. In addition the trip LED will illuminate.
Cooling	Fan assisted with fan fail detection. Air inlets at the front of the unit, exhaust on the rear. Min air flow inlet rate is 3 ms-1. For shelf mounting a 25 mm gap must be provided at the front and rear of the unit for air exhaust. No gap above or below the unit is necessary.

MECHANICAL SPECIFICATIONS

Dimensions (W x H x D)	19" rack mounting: 483 mm (19") x 88 mm (3.46") x 494 mm (19.4")
Weight	15 kg (33 lb)
Connections	All connections are mounted on the rear panel and controlled via 25-way female D-type, DC output via Anderson Power Products 992 - SB®50 Gray.
Mains	IEC320-C20 16A connector
Safety Earth	M6 stud



INTERFACE

Connections	
Pin	Function
1	V STATUS INDICATOR
2	I STATUS INDICATOR
3	V MONITOR
4	FAULT INDICATOR
5	LOCAL INDICATOR
6	OUTPUT ON INDICATOR
7	V DEMAND MONITOR
8	OUTPUT ON/OFF (LO)
9	OUTPUT ON/OFF (HI)
10	V DEMAND (HI)
11	V DEMAND (LO)
12	0 V
13	MONITOR 0 V
14	I MONITOR
15	OUTPUT OFF INDICATOR
16	REMOTE INDICATOR
17	NO CONNECTION
18	+10 V REFERENCE
19	NO CONNECTION
20	NO CONNECTION
21	OUTPUT ENABLE (LO)
22	OUTPUT ENABLE (HI)
23	I DEMAND (LO)
24	I DEMAND (HI)
25	I DEMAND MONITOR

All functions are provided on a 25-way female D-type connector mounted on the rear of the unit.



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ABOUT ADVANCED ENERGY

Since 1981, Advanced Energy (AE) has perfected how power performs for its customers. For both end users and OEMs, AE's comprehensive portfolio of standard and custom high voltage components precisely match system specifications to deliver unparalleled energy, quality, and performance. Through close customer collaboration, design expertise, application insight, and world-class support, AE creates successful partnerships and enables customers to push the boundaries of innovation and stay ahead of evolving market needs.

PRECISION | POWER | PERFORMANCE



CAUTION:
High Voltage

Read and understand all documentation before you install, operate, or maintain Advanced Energy high voltage power supplies. Follow all safety instructions and precautions to protect against property damage and serious or possibly fatal bodily injury. Never defeat safety interlocks or grounds.

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