HITEK POWER OL1K SERIES

HIGH VOLTAGE POWER SUPPLY

The HiTek Power® OL1K Series range of single output high voltage power supplies meets the exacting requirements found in electron and ion beam systems, ion implantation and X-ray equipment. Designed using the latest power switching IGBTs to ensure efficient and reliable operation over the full operating range, the OL1K Series will give excellent performance in the most severe of electrical environments.

PRODUCT HIGHLIGHTS

- 1kW of output power
- Output voltages from 1kV to 60kV
- Positive or Negative polarity to order
- Analogue meter or blank front panel options
- IGBT switch mode technology
- Local or remote operation
- Marked for EU LV Directive 73/23/EEC

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ELECTRICAL SPECIFICATIONS

Output Power	1kW maximum at full rated output voltage and current
Output Voltage	Units available with maximum output voltages from 1kV to 60kV
Output Current	Up to 1A for 1kV and 16mA for 60kV, see table
Input Voltage	187VAC to 255VAC 47-63Hz single phase plus protective earth
Input Current	Less than 12A
Polarity	Positive or negative to order
Specification Range	Specifications apply above 5% of rated output voltage. The output can be controlled down to less than 0.25% of rated output voltage.
Recovery Time	Less than 500ms to within 0.1% of previous operating level following a short circuit or arc. Maximum overshoot 2% of rated output voltage.
Temperature Coefficient	Less than 200ppm/°C
Drift	Less than 0.02% per hour after 1 hour warm up
Operating Temperature	0°C to +40°C
Storage Temperature	-20°C to +70°C
Humidity	80% maximum relative humidity up to 31°C, reducing linearly to 50% at 40oC. Non-condensing (ref BS EN61010-1)
Altitude	Sea level up to 2000 metres (6500 feet)
Installation Category	II (BS EN61010-1)
Pollution Degree	2 (BS EN61010-1)
Usage	Indoor use only
Protection	The units are fully protected against over-temperature and overcurrent, peak arc current is resistively limited.
Arc Count and Extinguish	Each time the ACE system detects an arc it blanks the supply off for a brief period to extinguish the arc. The unit is then allowed to recover. If more arcs occur they are counted to determine the arc rate; if this exceeds a safe level the power supply is shut down. The parameters are factory set to 25 arcs in any 5 second period.
Cooling	Fan assisted, air is drawn in via side panel vents and exits at the rear of the unit. Minimum airflow required is 3m/s. Ambient air around the unit must not exceed 40°C.
Safety	The Series OL1K meets the requirements of the Low Voltage Directive, 2006/95/EC, by complying with BS EN61010-1:2001 when installed as a component part of compliant equipment. It is CE marked accordingly.
Safety Class	Equipment Class 1
EMC[1]	EN55022 Class B for conducted and radiated emissions
	EN61000-4-2 ESD - levels ±4kV contact, ±8kV air discharge
	EN61000-4-4 Fast transients on mains input - levels ±2kV
	EN61000-4-5 surges - levels ±2kV line to earth, ±1kV line to line
	EN61000-4-8 magnetic fields - levels 30A/m at 50/60Hz
	EN61000-4-11 voltage dips, interruptions
RoHS	The OL1K is currently built to non-RoHS standard. This unit can, however, be configured to meet the requirements of RoHS where significant customer demand requires it, although please note that this will have an impact on delivery timescales.

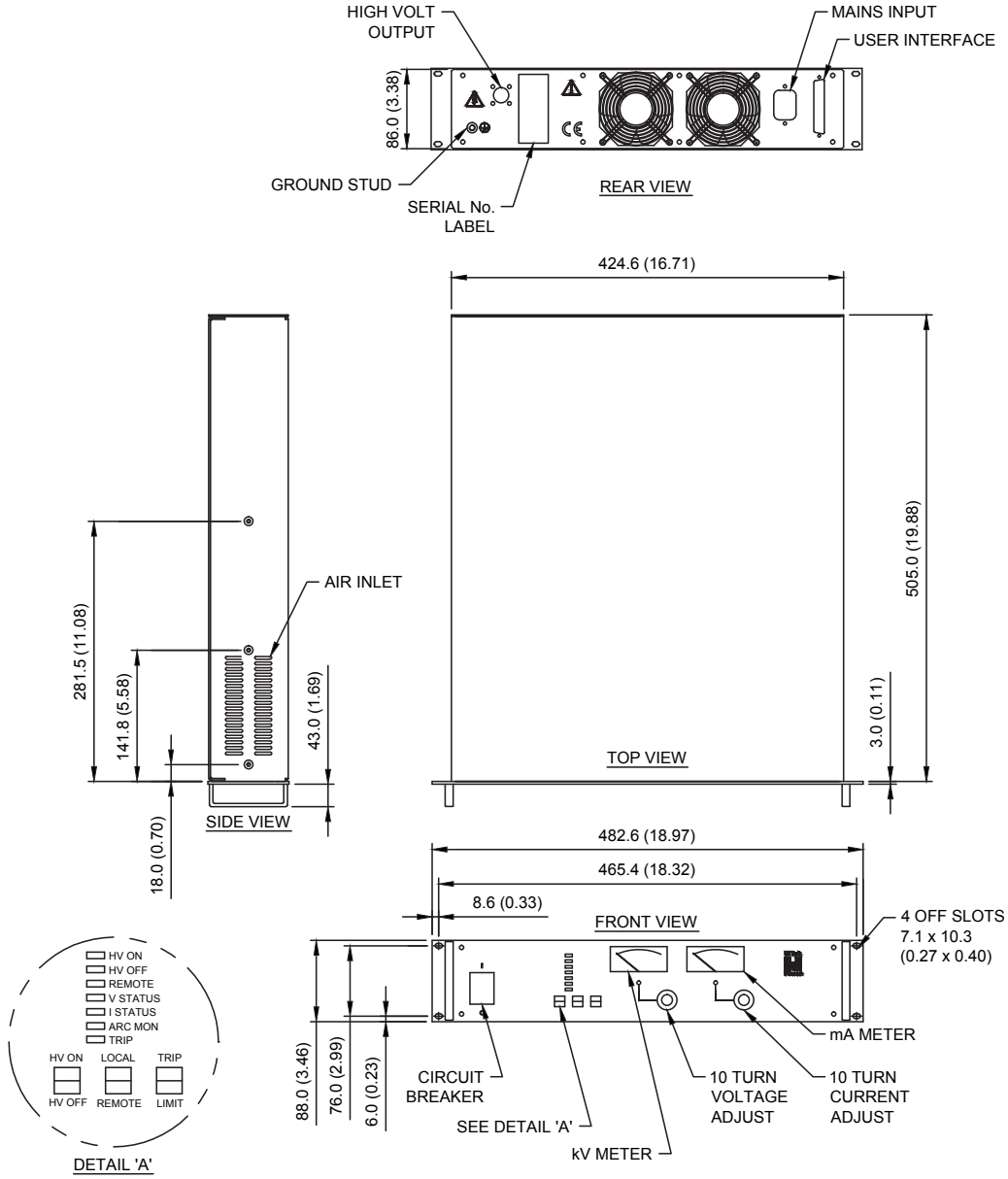
1 The Series OL1K is intended for installation as a component of a system and is designed to meet these requirements.
The unit will not trip and recovers to normal operation after a disturbance as defined in SEMI F47-0706.
The EMC performance of the power supply can only be fully assessed when installed within, and as a part of, the final system.

ELECTRICAL SPECIFICATIONS (CONTINUED)

Voltage Ripple	
Voltage Mode	Less than 0.1% of rated output voltage +2V, peak to peak
Current Mode	Less than 0.5% of rated output voltage peak to peak
Voltage Regulation	
Line	Less than 0.05% +1V change in output voltage for a 10% change in line voltage
Load	Less than 0.05% +1V change in output voltage for a 0 to 100% change in load current.
Current Regulation	
Line	Less than 0.5% of rated output current for a 10% change in line voltage
Load	Less than 0.5% change of rated output current for a 0 to 100% change in output voltage

MECHANICAL SPECIFICATIONS

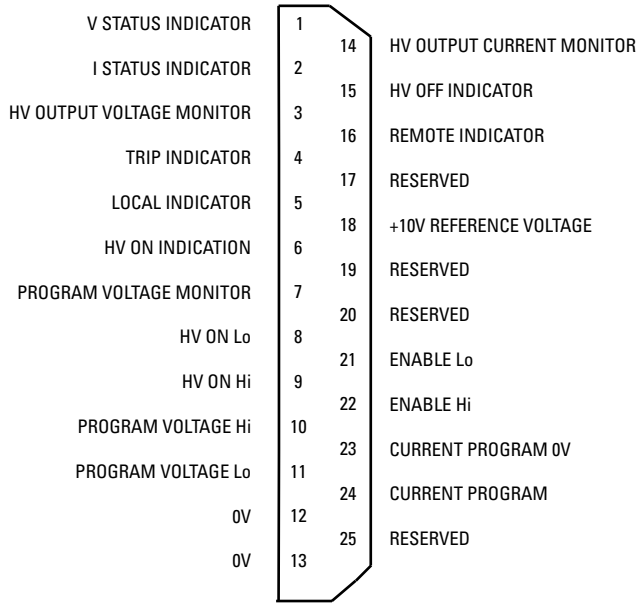
Dimensions	See outline drawing
Weight	14kg
Connections	All connections are mounted on the rear panel
Mains	IEC320
Safety earth	M6 stud
HV output	Proprietary coaxial connector, 2m cable provided
Front panel	Stoving enamel trimite full gloss S60/6 colour cream R87177 as standard



INTERFACE

Remote Control Interface Connections:

The Series OL1K is fitted with an analogue remote control interface, controlled via a 25-way female D-type connector:



All logical indicators are open collector outputs rated at 16V (max) in the off state. An internal 100Ω resistor is connected in series with the open collector transistor. The pull down voltage is 0.9V plus the internal resistor drop.

All analogue Voltage and Current Monitors are 0V to +10V ±0.5% ±20mV, with respect to pin 13, representing 0 to rated output. Signal impedance is less than 100Ω and minimum external load resistance is 2kΩ.

All analogue Voltage and Current Inputs are 0V to +10V on the Hi input with respect to the Lo input, representing 0V to rated output ±0.2% of setting ±0.1% of rating. Input impedance is greater than 50kΩ.

ORDERING INFORMATION

Model	Output Voltage	Output Current
OL1K/102[1]	1kV	1A
OL1K/202[1]	2kV	500mA
OL1K/502[1]	5kV	200mA
OL1K/103[1]	10kV	100mA
OL1K/203[1]	20kV	50mA
OL1K/303[1]	30kV	33mA
OL1K/403[1]	40kV	25mA
OL1K/503[1]	50kV	20mA
OL1K/603[1, 2]	60kV	16mA

1 Please add the required suffixes to the part number:
P Positive polarity
N Negative polarity
A Analogue meters
B Blank front panel
eg order part number OL1K/102PA for a 1kV positive polarity unit with analogue meters.

2 60kV unit has an encapsulated HV assembly.

For voltages not listed in the output table, please contact our sales team.

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.

Advanced Energy

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CE

ENG-HV-OL1K-231-01 6.18

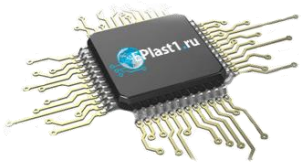
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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