

## **HITEK POWER® MH60 SERIES**

VERSATILE HIGH-VOLTAGE POWER SUPPLY MODULES





## Full range control and monitoring of output voltage and current for OEM equipment



The MH60 series is a range of versatile high voltage power supply modules suitable for specification in OEM equipment. Powered from 24 VDC, they supply up to 60 W output and allow full range control and monitoring of output voltage and current. Custom versions can be produced for specific requirements.

## **Features**

- > 60 W output power
- > High reliability
- > 24 VDC powered
- > Range of outputs available
- > Positive or negative polarity
- Short circuit and flashover protection
- Remotely controllable
- V and I control
- V and I monitor
- > LED status indication
- > Low ripple
- > EU RoHS compliant to 2002/95/EC marked for EU LV Directive 73/23/EEC

## **Typical Applications**

- Wide angle, high definition CRTs
- > X-ray equipment
- > Insulation and materials testing
- > Projection





Output Voltage         60 W max           Output Voltage         0 to 50 kV depending on model           Output Urrent         0 to 50 kV depending on model           Input Voltage         424 VDC (±10%)           Input Urrent         4 A max           Polarity         Positive or negative to order           Ripple         < 0.00% +10 V peak to peak	SPECIFICATIONS	
Output Current         0 to 2 mA depending on model           Input Voltage         124 VDC (±10 %)           Input Current         4 A max           Polarity         Positive or negative to order           Ripple         < 0.05% ±10 V peak to peak           Voltage Regulation         Line: < 0.01% for a 10% change in input voltage           Load: < 0.01% ±11 v no load to full load	Output Power	60 W max
Input Voltage	Output Voltage	0 to 50 kV depending on model
Input Current   4 A max	Output Current	0 to 2 mA depending on model
Positive or negative to order	Input Voltage	+24 VDC (±10%)
Ripple         < 0.05% ±10 V peak to peak           Voltage Regulation         Line: < 0.01% for a 10% change in input voltage           Current Regulation         Line: < 0.01% for a 10% change in input voltage           Load: < 0.01% ±1 ¼ for a 50% voltage change	Input Current	4 A max
Voltage Regulation   Line: < 0.01% for a 10% change in input voltage   Load: < 0.01% ±1 V no load to full load	Polarity	Positive or negative to order
Load: < 0.01% ±1 V no load to full load  Current Regulation  Line: < 0.01% for a 10% change in input voltage Load: < 0.01% ±1 µA for a 50% voltage change  Voltage Control  O to 10 V for 0 to 50 kV accuracy 0.25% ±10 V  Current Control  O to 10 V for 0 to 1.2 mA accuracy 0.25% ±11 µA  Monitors  Voltage: 0 to 10 V ±0.25% ±5 mV for 0 to 50 kV  Current: 0 to 10 V ±0.25% ±5 mV for 0 to 1.2 mA Each monitor has a series output resistor of 1 kΩ  Temperature Coefficent  100 ppm/"C over operating temperature range Applies to voltage control, voltage monitor and current monitor  Stability  ±0.1% over an 8 h period after 30 min warmup  Operating Temperature  0 to ±45°C  Storage Temperature  -20°C to ±60°C  Humidity  85% max relative humidity non-condensing  Altitude  Sea level to 2000 m (6500°)  Installation Category  1 (BS EN6100-1)  Pollution Degree  2 (BS EN6100-1)  Control  The power supply is operated via the 9-way, D-type connector situated on the rear panel. Full control and monitoring functions are available by this method.  Cooling  Free convection (no fan)  Protection  The MH60 series meets the requirements of the Low Voltage Directive (LVD), 2006/95/EC, by complying with BS EN61010 when it is installed as a component of a system. Basic EMC filtering is provided.  ReHS  The MH60 series meets the requirements of the Low Voltage Directive (LVD), 2006/95/EC, by complying with BS EN61010 when it is installed as a component part of compilant equipment. It is CE marked accordingly.  Mechanical Specification  Dimensions  See outline drawing  Weight  A kida Cantal Carbon (2004)  Load Carbo	Ripple	< 0.05% +10 V peak to peak
Current Regulation       Line: < 0.01% for a 10% change in input voltage         Load: < 0.01% ±1 μA for a 50% voltage change	Voltage Regulation	Line: < 0.01% for a 10% change in input voltage
Load: < 0.01% ±1 μA for a 50% voltage change		Load: < 0.01% ±1 V no load to full load
Voltage Control         0 to 10 V for 0 to 50 kV accuracy 0.25% ±10 V           Current Control         0 to 10 V for 0 to 1.2 mA accuracy 0.25% ±1 μA           Monitors         Voltage: 0 to 10 V ±0.25% ±5 mV for 0 to 1.50 kV           Current: 0 to 10 V ±0.25% ±5 mV for 0 to 1.2 mA           Each monitor has a series output resistor of 1kΩ           Temperature Coefficent         100 ppm/°C over operating temperature range           Applies to voltage control, voltage monitor and current monitor           Stability         ±0.1% over an 8 h period after 30 min warmup           Operating Temperature         0 to +45°C           Storage Temperature         -20°C to +60°C           Humidity         85 max relative humidity non-condensing           Altitude         Sea level to 2000 m (6500°)           Installation Category         1 (85 EN61010-1)           Pollution Degree         2 (85 EN61010-1)           Control         The power supply is operated via the 9-way, D-type connector situated on the rear panel. Full control and monitoring functions are available by this method.           Cooling         Free convection (no fan)           Protection         The units are fully protected against flashover and continuous short circuit (no trip).           EMC         The MH60 series is intended for installation as a component of a system. Basic EMC filtering is provided.           Safety	<b>Current Regulation</b>	Line: < 0.01% for a 10% change in input voltage
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Hazardous Substances in electrical and electronic equipment (RoHS).  Mechanical Specification  Dimensions See outline drawing  Weight 3 kg (6.6 lb)	Safety	with BS EN61010 when it is installed as a component part of compliant equipment. It is CE marked
Dimensions     See outline drawing       Weight     3 kg (6.6 lb)	RoHS	
Weight 3 kg (6.6 lb)	Mechanical Specification	
	Dimensions	See outline drawing
Casing Aluminium, clear non-chrome passivate finish	Weight	3 kg (6.6 lb)
	Casing	Aluminium, clear non-chrome passivate finish



INTERFACE CONNECTIONS			
Input DC	2 x ¼" space terminals		
Safety Earth	M5 stud		
HV Output	50 kV unit has 'poke home' connector		
Control interface via a 9-way, female D-type connector:	SIGNAL GROUND 0 V  HV ON/OFF 2  VOLTAGE PROGRAM 3  VOLTAGE MONITOR 4  CURRENT PROGRAM 5  CURRENT PROGRAM 5	K INPUT	
OUTPUTS AND ORDERING INFORMA			
Model	Output Voltage	Output Comment	
	Output Voltage	Output Current	
MH60/303*	30 kV	2 mA	
MH60/303* MH60/403*			
	30 kV	2 mA	
MH60/403*	30 kV 40 kV	2 mA 1.5 mA	
MH60/403* MH60/503*	30 kV 40 kV	2 mA 1.5 mA	
MH60/403* MH60/503* Accessories	30 kV 40 kV 50 kV	2 mA 1.5 mA	

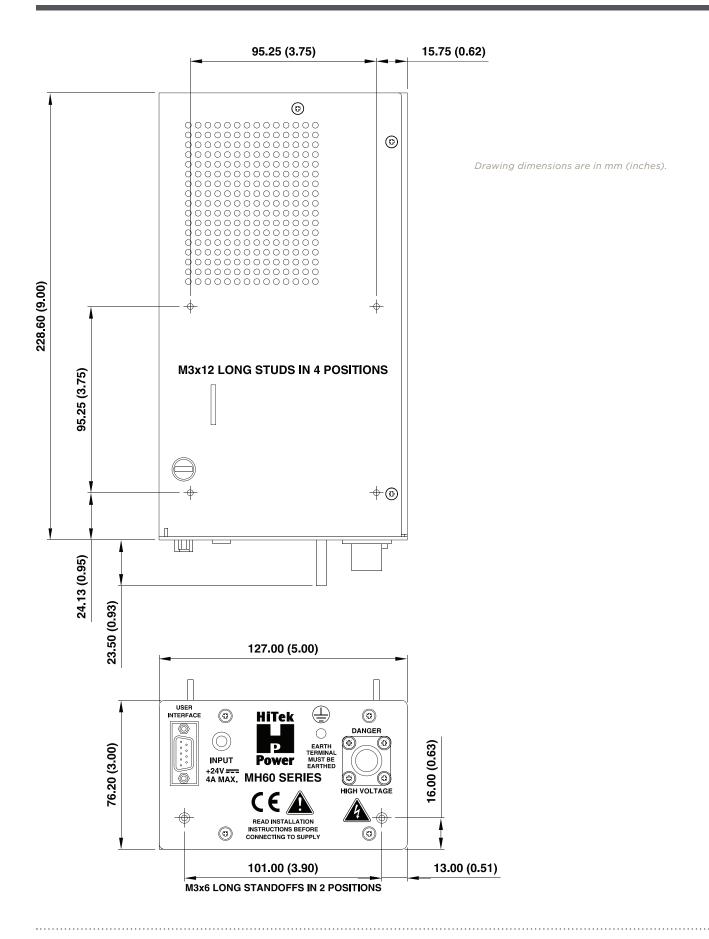
Add P for a Positive polarity unit or N for a Negative polarity unit. eg: part number for a 50 kV positive unit: MH60/503P

For voltages not listed above, please contact our sales team.



These component power supplies meet the requirements of EC Directive 73/23/EEC (LVD).









For international contact information, visit advanced-energy.com.

ENG-HV-MH60-230-01 4.17