

HITEK POWER MHX SERIES

VERSATILE HIGH VOLTAGE POWER SUPPLY MODULES



The HiTek Power® MHX Series is a range of versatile high voltage modules suitable for specification in OEM equipment as component power supplies. Suitable applications include X-ray equipment, insulation and materials testing, electron and ion beam acceleration, and ion acceleration. Powered from 24V DC, these units allow full range control and monitoring of voltage and current via 0-10V analogue signals. In addition, internal potentiometers are provided for voltage and current control.

PRODUCT HIGHLIGHTS

- 100W max output power
- High reliability
- 24V DC powered
- Positive or negative polarity
- Short circuit & flashover protection
- Remotely controllable
- V & I control
- V & I monitor
- Low ripple
- CE marked

ELECTRICAL SPECIFICATIONS

Output Power	100W max output power, depending on model
Output Voltage	0 to 80kV max depending on model
Output Current	0 to 1.67mA depending on model
Input Voltage	+24V DC ($\pm 2V$ DC)
Input Current	6A max
Polarity	Positive or negative to order
Ripple	Less than 0.1% peak to peak
Temperature Coefficient	200ppm/ $^{\circ}$ C over operating temperature range
Stability	$\pm 0.1\%$ over an 8 hour period after 30 minutes warm-up
Operating Temperature	0 to $+45^{\circ}$ C
Storage Temperature	-20° C to $+60^{\circ}$ C
Humidity	85% maximum relative humidity non-condensing
Altitude	Sea level to 2000m (6500 ft)
Installation Category	1 (BS EN61010-1)
Pollution Degree	2 (BS EN61010-1)
Control	The power supply is operated via the 15-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 Series MHX is intended for installation as a component of a system. Basic EMC filtering is provided.
Safety	The Series MHX meets the requirements of the Low Voltage Directive (LVD), 73/23/EEC by complying with BS EN61010 when it is installed as a component part of compliant equipment. It is CE marked accordingly.
RoHS	The Series MHX 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.
Voltage Regulation	
Line	Less than 0.01% for a 10% change in input voltage
Load	Less than 0.05% no load to full load
Current Regulation	
Line	Less than 0.1% for a 10% change in input voltage
Load	Less than 0.1% for 10% to full load
Voltage Control	
1	0 to 10V for 0 to rated output voltage, accuracy $\pm 1\%$ of rated voltage
2	Via remote potentiometer minimum resistance 9k Ω
3	Via internal potentiometer
Current Control¹	
1	0 to 10V for 0 to rated output current, accuracy $\pm 1\%$ of rated voltage
2	Via remote potentiometer minimum resistance 9k Ω
3	Via internal potentiometer
Monitors²	
Voltage	0 to 10V $\pm 1\%$ for 0 to rated output voltage
Current	0 to 10V $\pm 1\%$ for 0 to rated output current

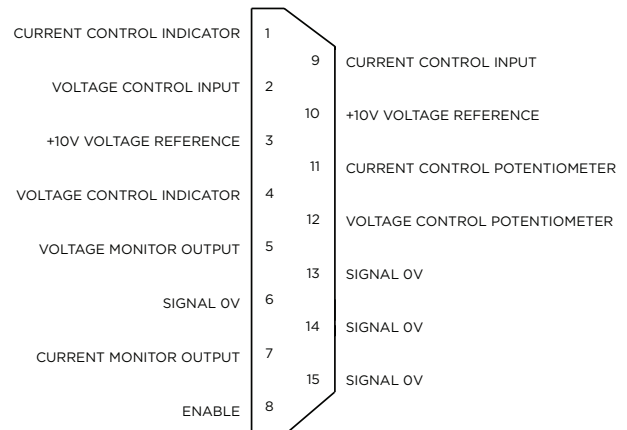
¹ Any combination of V and I control may be used.

² Each monitor has a series output resistor of 1k Ω .

INTERFACE

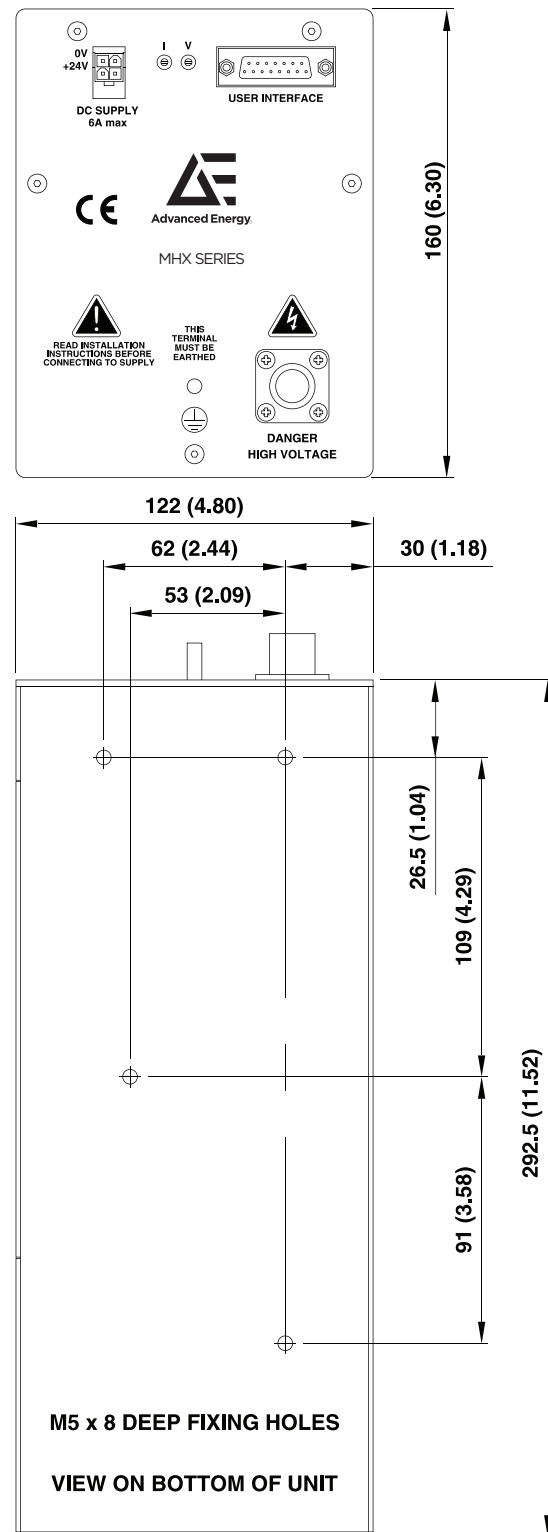
Connections	
+24V input	4W Molex Minifit 5569 Pin 1+2 0V, 3+4 +24V
Safety Earth	M5 stud
HV Output	50kV unit has 'poke home' connector

Control interface via a 15-way female D-type connector:



MECHANICAL SPECIFICATIONS

Dimensions	See outline drawing
Weight	3.5kg (7.7lb)



ORDERING INFORMATION

Model Number	Output Voltage	Output Current	Output Power
MHX-603 ¹	60kV	1.67mA	100W
MHX-803 ¹	80kV	1mA	80W

¹ Please add suffix P (Positive) or N (negative) to the model number for the required polarity.

eg: part number for a 50kV positive unit: MHX-503P.

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



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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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