

# HITEK POWER MH100 SERIES

## VERSATILE HIGH VOLTAGE POWER SUPPLY MODULES



The HiTek Power<sup>®</sup> MH100 series is a range of versatile high voltage modules suitable for specification in OEM equipment as component power supplies. Powered from 24 VDC, these units allow full range control and monitoring of voltage and current via 0 to 10 V analog signals. In addition, internal potentiometers are provided for voltage and current control.

### PRODUCT HIGHLIGHTS

- 100 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 marked
- CE marked

### TYPICAL APPLICATIONS

- Wide angle, high definition CRTs
- X-ray equipment
- Insulation and materials testing
- Electron- and ion-beam acceleration
- Projection

## ELECTRICAL SPECIFICATIONS

Parameter	Specification
Output Power	100 W max
Output Voltage	0 to 50 kV depending on model
Output Current	0 to 20 mA depending on model
Input Voltage	+24 VDC ( $\pm 2$ VDC)
Input Current	6 A max
Polarity	Positive or negative to order
Ripple	< 0.1% peak to peak
Voltage Regulation	Line: < 0.01% for a 10% change in input voltage
	Load: < 0.1% for 10% to full load
Current Regulation	Line: < 0.01% for a 10% change in input voltage
	Load: < 0.1% for 10% to full load
Voltage Control	0 to 10 V for 0 to rated output voltage, accuracy $\pm 1\%$ of rated voltage
	Via remote potentiometer min resistance 9 k $\Omega$
	Via internal potentiometer
Current Control	0 to 10 V for 0 to rated output current, accuracy $\pm 1\%$ of rated voltage
	Via remote potentiometer min resistance 9 k $\Omega$
	Via internal potentiometer
	Any combination of V and I control may be used
Monitors	Voltage: 0 to 10 V $\pm 1\%$ for 0 to rated output voltage
	Current: 0 to 10 V $\pm 1\%$ for 0 to rated output current
	Each monitor has a series output resistor of 1 k $\Omega$
Temperature Coefficient	200 ppm per $^{\circ}\text{C}$ over operating temperature range
Stability	$\pm 0.1\%$ over an 8 h period after 30 min warmup
Operating Temperature	0 to 45 $^{\circ}\text{C}$ (32 to 113 $^{\circ}\text{F}$ )
Storage Temperature	-20 to 6 $^{\circ}\text{C}$ (-4 to 43 $^{\circ}\text{F}$ )
Humidity	85% max relative humidity non-condensing
Altitude	Sea level to 2000 m (6500')
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 MH100 series is intended for installation as a component of a system. Basic EMC filtering is provided.
Safety	The MH100 series 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 MH100 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.

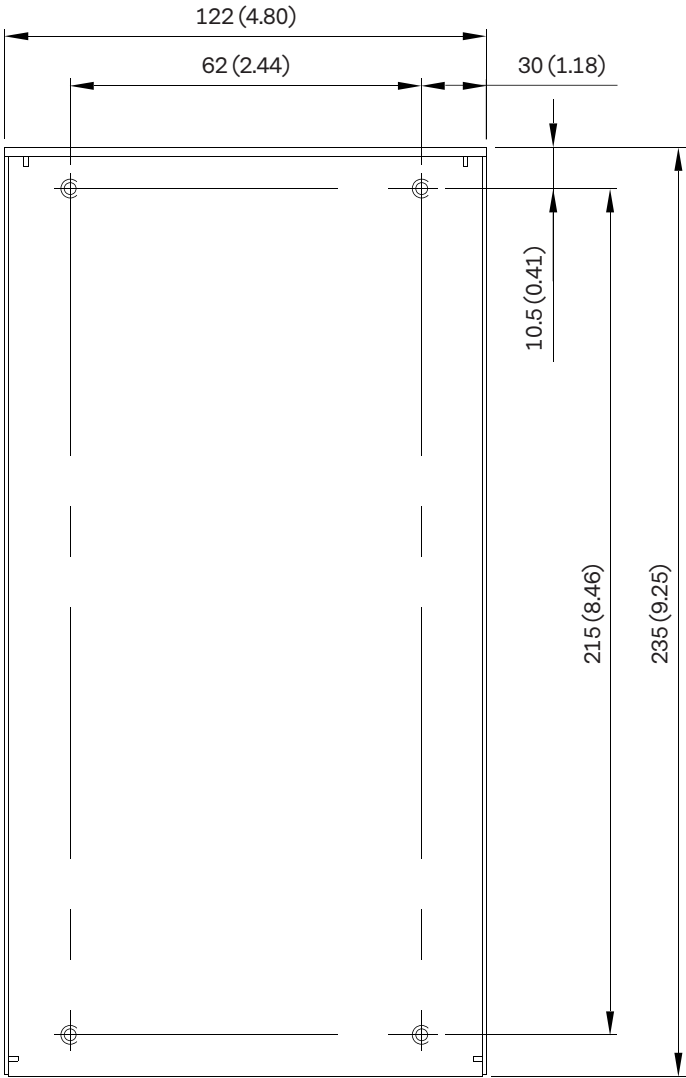
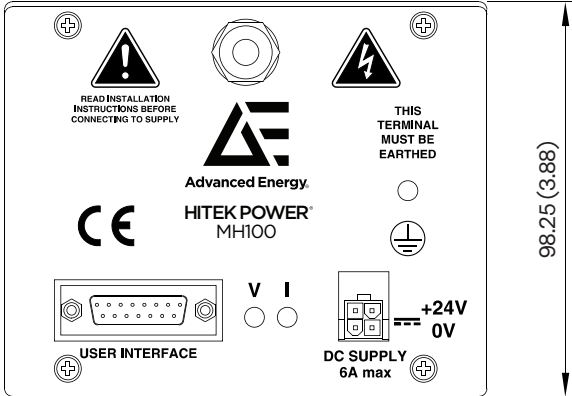
**MECHANICAL SPECIFICATIONS**

**Dimensions**

See drawing . Drawing dimensions are in mm (in).

**Volume and Weights**

Weight	3 kg (6.6 lb)
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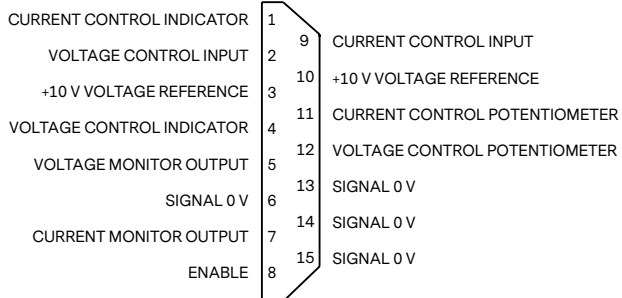


M4 x 8 Deep Fixing Holes  
View on Bottom of Unit

**INTERFACE**

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

**Control interface via a 15-way, female D-type connector**



**ORDERING INFORMATION**

Output and Ordering Information		
Model	Output Voltage	Output Current
MH100/502*	5 kV	20 mA
MH100/103*	10 kV	10 mA
MH100/253*	25 kV	4 mA
MH100/303*	30 kV	3.3 mA
MH100/403*	40 kV	2.5 mA
MH100/503*	50 kV	2 mA

Accessories	
33400206-00	MH100 1M HV Cable
33400206-01	MH100 3M HV Cable
33400206-02	MH100 5M HV Cable

- 1 For voltages not listed above, please contact our sales team.
- 2 If required, this unit can be configured to meet the requirements of RoHS providing a significant quantity is ordered.

\* Please add the required suffix or suffices to the model number:

P or N	Positive or negative polarity
S	Screened HV cable only
A	Front HV cable exit
B	Rear HV cable exit (not available on MH100/503)

e.g.: part number for a 50 kV positive unit with screened cable: MH100/503PS



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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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