HITEK POWER MH100 SERIES

VERSATILE HIGH VOLTAGE POWER SUPPLY MODULES

The HiTek Power® MH100 series of versatile high voltage modules are suitable for specification in OEM equipment. 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
- Output voltages from 5 to 50 kV available with customer-defined derivatives upon request
- 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

SAFETY

- Low Voltage Directive, 2014/35/EU SI 2016 No. 1101 by complying with BS EN61010-1:2010
- CE and UKCA marked

TYPICAL APPLICATIONS

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

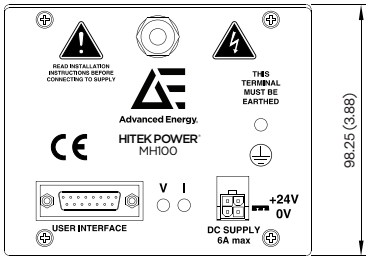
ELECTRICAL SPECIFICATIONS

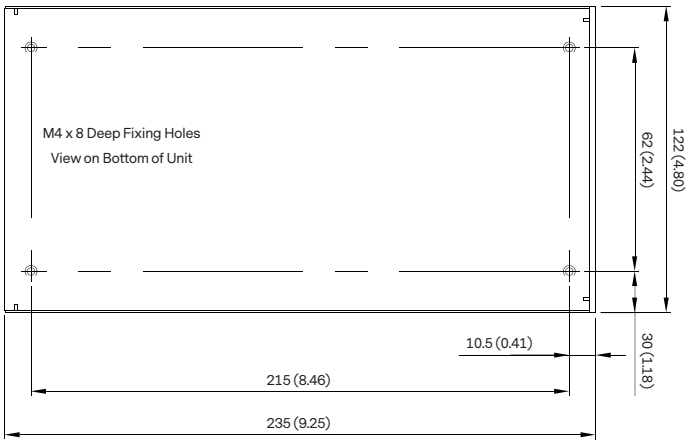
Parameter	Specification
Output Power	100 W max
Output Voltage	0 to 50 kV depending on model
Output Current	0 to 20 mA depending on model
Input Voltage	+24 VDC (±2 VDC)
Input Current	6 A max
Polarity	Positive or negative to order
Ripple	< 0.1% peak to peak
Voltage Regulation	Line: < 0.01% for a 10% change 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 ±1% of rated voltage
	Via remote potentiometer min resistance 9 kΩ
	Via internal potentiometer
Current Control	0 to 10 V for 0 to rated output current, accuracy ±1% of rated voltage
	Via remote potentiometer min resistance 9 kΩ
	Via internal potentiometer
	Any combination of V and I control may be used
Monitors	Voltage: 0 to 10 V ±1% for 0 to rated output voltage
	Current: 0 to 10 V ±1% for 0 to rated output current
	Each monitor has a series output resistor of 1 kΩ
Temperature Coefficent	200 ppm per °C over operating temperature range
Stability	±0.1% over an 8 h period after 30 min warmup
Operating Temperature	0 to 45°C (32 to 113°F)
Storage Temperature	-20 to 6°C (-4 to 43°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	Meets the requirements of Low Voltage Directive, 2014/35/EU, SI 2016 No. 1101 by complying with BS EN61010-1:2010 when installed as a component part of compliant equipment. Units are CE and UKCA marked accordingly.
RoHS	Meets the requirements of EU Directive 2011/65/EU, Delegated directive 2015/863 and SI 2012 No. 3032 on the restriction of use of certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)

MECHANICAL SPECIFICATIONS

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

Volume and Weights	
Weight	3 kg (6.6 lb)

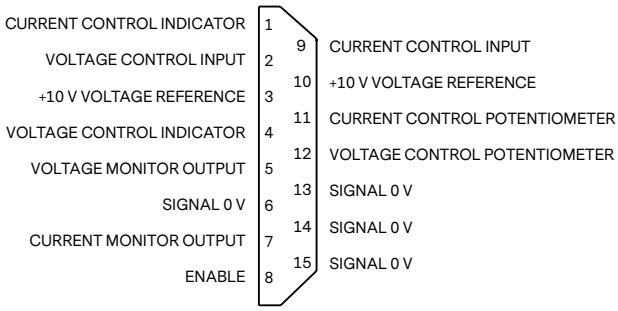




INTERFACE

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

For ordering information and to find a solution for your exact requirements, please contact your local Advanced Energy sales representative.

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 | TRUST

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

For international contact information,
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CE UKCA

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