Advanced Energy®

HITEK POWER® MSQ SERIES

MASS SPECTROMETRY POWER SUPPLY MODULES

MSQ SERIES

The MSQ series consists of quad output modules for use in high leakage electrostatic lens applications. They provide reliable and consistent operation over long working periods.

MODULAR DESIGNS, CUSTOM SOLUTIONS

The modular design of AE high voltage products for mass spectrometry enables an array of performance features and combinations. From simple options, such as cable length and connector type, to complete custom designs, we deliver solutions that precisely fulfill your specific requirements.

FEATURES

- Output power: 85 W
- Output voltage: ±430 V to ±1.35 kV
- Quad outputs
- Ripple: < 0.05% peak to peak
- Temperature coefficient: 250 ppm/°C
- Stability: 0.25% per hour after one hour warm up
- Each output individually protected
- High reliability
- Screened case for low magnetic radiation
- Compact design

PROVEN POWER-CONVERSION TOPOLOGIES, CONTROL METHODS, AND MECHANICAL EXPERTISE EATURE

SPECIFICATIONS

Output Power	85 W, max (total of 4 outputs)
Output Voltage	±430 V to ±1.35 kV, depending on model
Output Current	Up to 70 mA, depending on model
Output Polarity	Not selectable
Input Voltage	+24 VDC ±10%
Input Current	6 A, max
Line Regulation	< 0.5% for a 1 V input voltage change
Load Regulation	< ±1% for output 1, ±4% for outputs 2, 3, and 4
Ripple	< 0.05% peak to peak
Voltage Control	Output voltages are fixed.
Current Control	Fixed at approximately 110 to 130% of max
Stability	0.25% per hour after one hour warmup
Temperature Coefficient	250 ppm/°C at max output voltage
Cooling	Forced cooled (integrated fan)
Protection	The units are fully protected against over voltage, thermal, and short circuit on all outputs.
Operational Temperature	10 to 50°C (50 to 122°F)
Storage/Transport Temperature	-20 to 85°C (-4 to 185°F)
Operational Altitude	Sea level to 2000 m (6500')
Storage/Transport Altitude	Sea level to 18000 m (59,055')
Reliability	MTBF > 50,000 hours
Humidity	80% max relative humidity up to 31°C (88°F), reducing linearly to 50% at 40°C (104°F); non-condensing (ref EN61010-1)
Safety	Meets the requirements of the Low Voltage Directive, 2006/95/EC by complying with BS EN61010-1:2010 when installed as a component part of compliant equipment. Units are CE marked accordingly.
RoHS	Meets the requirements of EU Directive 2011/65/EC on the Restriction of use of certain Hazardous Substances in Electrical and Electronic Equipment (RoHS).
Construction	A fabricated aluminum alloy case is used for good heat dissipation and screening.

Mechanical Specification

Dimensions	168 mm x 136 mm x 57 mm (6.6" x 5.35" x 2.24")
Weight	0.8 kg (1.76 lb)
Casing	Aluminum, clear non-chrome passivate finish
Output Cable	Unterminated URM76

OUTPUT AND ORDERING INFORMATION

Model	Output 1	Output 2	Output 3	Output 4
MSQ-801	+430 V, 70 mA	-430 V, 70 mA	+800 V, 15 mA	-800 V, 15 mA
MSQ-142	+430 V, 50 mA	-430 V, 50 mA	+1.35 kV, 15 mA	-1.35 kV, 15 mA

INTERFACE CONNECTIONS

Molex Minifir 39-29-1168 16-Way Connector

Note: The input and output 0 V are connected together and also connected to the chassis.

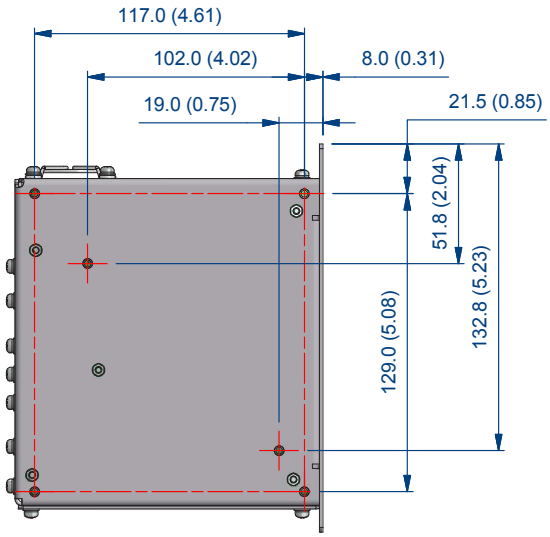
PIN	FUNCTION
1	--
2	--
3	--
4	+24 V input
5	0 V input
6	--
7	--
8	--
9	Output 3
10	--
11	Output 1
12	0 V output
13	0 V input
14	Output 2
15	--
16	Output 4

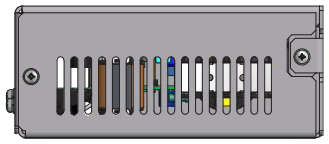
CE These component power supplies meet the requirements of EC Directive 2006/95/EC (LVD).

Drawing dimensions are in mm (inches).

Design developments may result in specification changes.

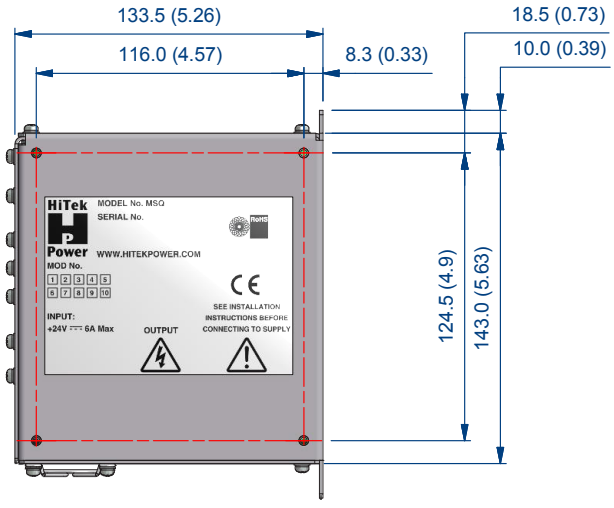
6 x M3 FIXINGS THIS SIDE - POSITIONS SHOWN BELOW:

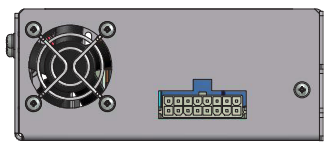




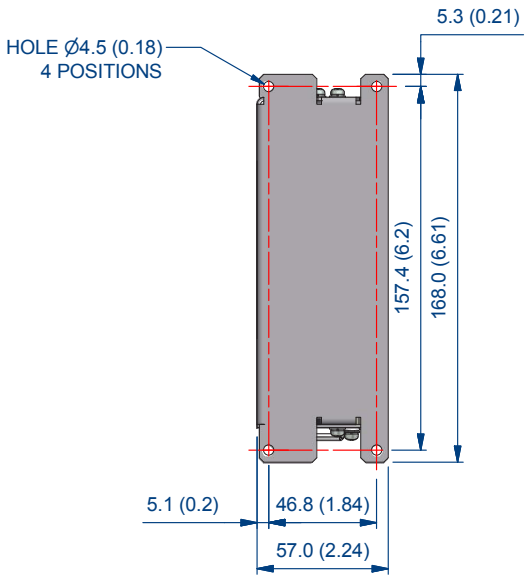
DIMENSIONS mm (in)

4 x M3 FIXINGS THIS SIDE - POSITIONS SHOWN BELOW:





4 FIXING POSITIONS THIS SIDE
POSITIONS SHOWN BELOW:



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