

# M SERIES

## Miniature, Microsize High Voltage Biasing Supply

The miniature, microsize M Series is the ideal solution for applications that need a biasing voltage ranging from 0 to 1500V and very small current, at only 1.00in<sup>3</sup> (16.4cc). At less than 0.5in (12.7mm) in height, these modules are ideal for low profile applications.

- 4 models from 0 to 600V, 1000V, 1250V, or 1500V
- 1 watt of output power
- Tight line/load regulation
- Arc and continuous short circuit protection
- Self restoring output voltage
- 12, 15 or 24 Volts DC Input
- Low cost
- Miniature and lightweight
- 5V reference
- Voltage monitoring
- Low ripple (0.01% peak to peak)
- Optional flying lead for HV output



Typical applications for the M Series include the following:

- Bias Supplies
- Electrostatic chuck (E-chuck)
- Avalanche Photo Diodes (APD)
- Photomultiplier Tubes (PMT)

Please contact UltraVolt's customer service department for an analysis of your requirements.

PARAMETER	SPECIFICATION
Input voltage Vin (pins 1 & 2)	12VDC $\pm$ 0.5VDC or 15VDC $\pm$ 0.5VDC or 24VDC $\pm$ 1VDC, according to type
Input current	At no load: 15mA At full load: from 65mA to 100mA
Polarity	Fixed positive and fixed negative
HV setting (pins 3, 4 & 5)	Via external potentiometer, minimum resistance 10k $\Omega$ or Via external voltage source 0/5V $\pm$ 0.5% at full scale, and input impedance >1M $\Omega$
Load voltage regulation	$\pm$ 0.01% of full output voltage for no load to full load
Line voltage regulation	$\pm$ 0.01% of full output voltage over specified input voltage range
Residual ripple	Between 10mV and 40mV peak-to-peak at full load
Temperature coefficient	100ppm/ $^{\circ}$ C for the maximum output voltage after starting and over temperature range 0 to 50 $^{\circ}$ C
Output HV monitoring (pin 6)	+1V/1kV max. or -1V/-1kV max. according to model polarity output impedance = 200k $\Omega$ $\pm$ 1%
Output reference voltage (pin 5)	5V $\pm$ 0.5%, TC:50ppm/ $^{\circ}$ C, max. output current: 1mA
Operating temperature	-40 $^{\circ}$ C to +50 $^{\circ}$ C
Storage temperature	-40 $^{\circ}$ C to +70 $^{\circ}$ C
Safeguards	Arc and short circuit protection
Options	<ul style="list-style-type: none"> <li>• Flying wire for HV output instead of pin 7</li> <li>• Suitable for use with an external potentiometer</li> </ul>

Specifications subject to change without notice.



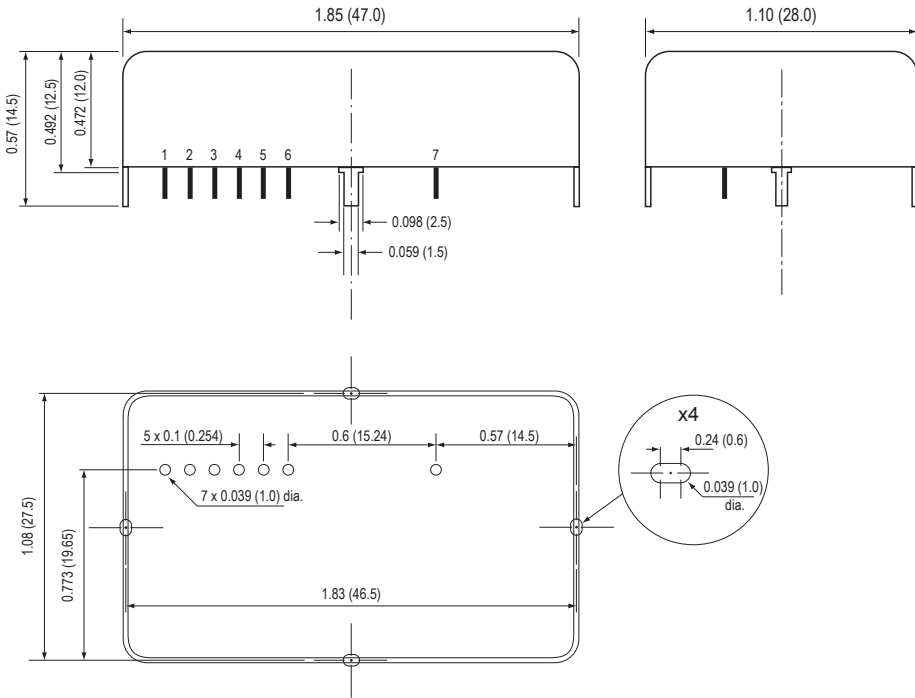
*Making High Voltage Easier!®*

**Higher Service, Higher Performance, Higher Reliability**

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### CONSTRUCTION

Tin steel plate, thickness 0.02" (0.5)  
 Insulation: fully potted in an epoxy resin

### SIZE

Volume: 1.00in<sup>3</sup> (16.4cc)  
 Weight: 1.23oz (35g)

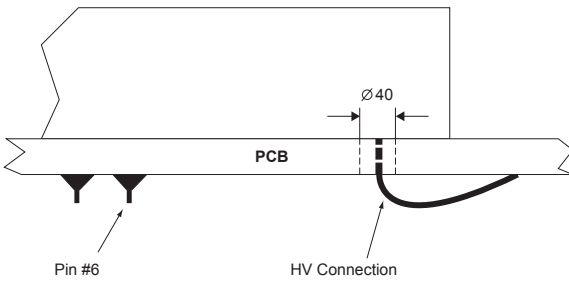
### TOLERANCE

Overall ±0.0039" (0.1)  
 Pin to Pin ±0.0039" (0.1)  
 Tabs location ±0.0118" (0.3)

### NOTES

0.018" (0.46) round pins, length: 0.12" (3), spacing: 0.1" (2.54)  
 PCB mounting through 4 mounting tabs: Length: 0.2" (5), width: 0.059" (1.5), thickness: 0.02" (0.5)  
 Optional flying lead for HV output: Coaxial cable (RG178), diameter = 0.079" (2), length = 19.685" (500)

### FLYING LEAD OPTION



### ORDERING INFORMATION

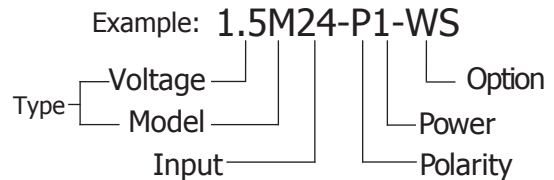
Type	0 to 600 VDC Output	0.6M
	0 to 1,000 VDC Output	1M
	0 to 1,250 VDC Output	1.25M
	0 to 1,500 VDC Output	1.5M
Input	12VDC Nominal	12
	15VDC Nominal	15
	24VDC Nominal	24
Power	Watts Output (12Vin only)	0.5
	Watts Output (15Vin only)	0.8
	Watts Output (24Vin only)	1
Case	Tin Steel Case	(Standard)
Polarity	Positive Output	-P
	Negative Output	-N
Option	Output Voltage Lead Wire	-WS

CONNECTIONS	
PIN	FUNCTION
1	Positive Power Input
2	Power Ground
3	Signal Ground
4	Remote Adjust Input
5	+5VDC Reference Output
6	Eout Monitor
7	HV Output

Note: mounting tabs must be connected to ground.



Non-RoHS compliant units are available. Please contact the factory for more information.



Popular accessories ordered with this product include the PCB-CONN-M/V.

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