



- HIGH STABILITY 10PPM/HR
- ULTRA LOW TEMPERATURE COEFFICIENT 15PPM/°C
- VERY COMPACT AND LIGHT WEIGHT
- SIX-SIDED SHIELDED
- EXTERNAL POTENTIOMETER OR AN EXTERNAL VOLTAGE REFERENCE
- OEM CUSTOMIZATION AVAILABLE

## INTRODUCTION

Wisman's MB series of 1W to 2W micro-modules that provide output voltage rang from ±50V to ± 3kV. MB modules are compact, six-sided shielded modules with high stability and low temperature coefficient. All models are equipped with an external potentiometer or an external voltage for monitoring. With arc protection, short circuit protection and overload protection.

## TYPICAL APPLICATIONS

Mass spectrometry photomultiplier tubes (PMT), solid state detectors, Piezo crystal devices, ultrasonic transducers, microchannel plates (MCP), spectroscopy, scintillation counters, electron multiplier detectors, nuclear Instruments, electrophoresis, semiconductor testing, DNA sequencing, radiation counter, electron and ion beams, electrostatic chuck, high voltage, bias hipot testing, precision lenses, image intensifiers, semiconductor testing, chemical applications, laboratory applications, industrial application supplies.

## MB SELECTION TABLE

kV	mA	P(W)	MODEL	kV	mA	P(W)	MODEL	kV	mA	P(W)	MODEL	kV	mA	P(W)	MODEL
0.1	10.00	1	MB0.1*1	0.6	1.67	1	MB0.6*1	1.5	0.67	1	MB1.5*1	5	0.20	1	MB5PN1
	20.00	2	MB0.1*2		3.33	2	MB0.6*2		1.33	2	MB1.5*2		0.40	2	MB5PN2
0.2	5.00	1	MB0.2*1	0.8	1.25	1	MB0.8*1	2	0.50	1	MB2*1	6	0.17	1	MB6PN1
	10.00	2	MB0.2*2		2.50	2	MB0.8*2		1.00	2	MB2*2		0.34	2	MB6PN2
0.3	3.33	1	MB0.3*1	1	1.00	1	MB1*1	2.5	0.40	1	MB2.5*1				
	6.67	2	MB0.3*2		2.00	2	MB1*2		0.80	2	MB2.5*2				
0.4	2.50	1	MB0.4*1	1.1	0.91	1	MB1.1*1	3	0.34	1	MB3*1				
	5.00	2	MB0.4*2		1.82	2	MB1.1*2		0.67	2	MB3*2				
0.5	2.00	1	MB0.5*1	1.25	0.80	1	MB1.25*1	4	0.25	1	MB4PN1				
	4.00	2	MB0.5*2		1.60	2	MB1.25*2		0.50	2	MB4PN2				

## MB SELECTION EXAMPLE

MB	3	*	2	VP	5	VM	5	LS	12
Series Number	Maximum Output Voltage (kV)	Output Polarity P: positive N: negative PN: positive and negative	Maximum Output Power (W)	Optional given VP: Voltage Programming	Optional given ratio 10:0to+10Vdc~0to maximum output 5:0to+5Vdc~0to maximum output 2.5:0to+2.5Vdc~0to maximum output	Optional display VP: Voltage monitor	Optional display ratio 10:0to+10Vdc~0to maximum output 5V:0to+5Vdc~0to maximum output 2.5:0to+2.5Vdc~0to maximum output	Optional startup method LS: GND=ON	Optional Input voltage 24:+24Vdc 15:+15Vdc 12:+12Vdc 5:+5Vdc



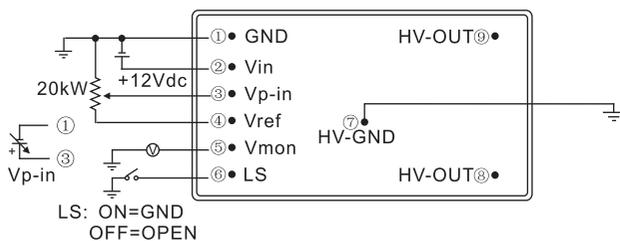
**MB SPECIFICATIONS**

PARAMETER	DESCRIBE
Input Voltage	+12Vdc±2%, input current≤350mA. +24Vdc, +15Vdc, +5Vdc input.
Output	±50V~±3kV optional.
Stability	0.001%/hr after a 30 minute warm-up period.
Temperature Coefficient	≤15ppm/°C
Ripple	0.08% p-p of maximum output voltage. 0.001% available
Voltage Programming	By external 20kΩ potentiometer or external voltage control(Vp-in) 0 to +5Vdc. Zin = 100kΩ.
Voltage Monitor	0 to +5Vdc = 0 to 100% output. Zout = 20kΩ. Accuracy = ±1%.
Voltage Line Regulation	±0.001%( for ±2% change in input voltage).
Voltage Load Regulation	0.5% (of MAX output voltage, no load to full load).
Operating Temperature	-10°C to +50 °C
Storage Temperature	-45°C to +85°C
Humidity	0% to 90% RH, non-condensing.
Cooling	Convection cooled.
Dimensions	0.47" H x 0.98" W x 1.79" D (12mm x 25mm x 45.5mm).
Weight	25g

**MB PIN INFORMATION**

PIN	DESCRIPTION
1	Power Ground
2	Power Input +12Vdc±2%, Option +24Vdc, +15Vdc, +5Vdc
3	Voltage Programming, 0 to 5Vdc corresponds to 0 to 100% of rated output, Zin=100kΩ
4	+5Vdc Reference
5	Voltage monitor, 0 to 5Vdc corresponds to 0 to 100% of rated output, Zout=20kΩ
6	LS (Option), GND=ON/ HS, GND=OFF
7	HV_GND
8	Negative High Voltage Output
9	Positive High Voltage Output

**MB CONNECTION DIAGRAM**



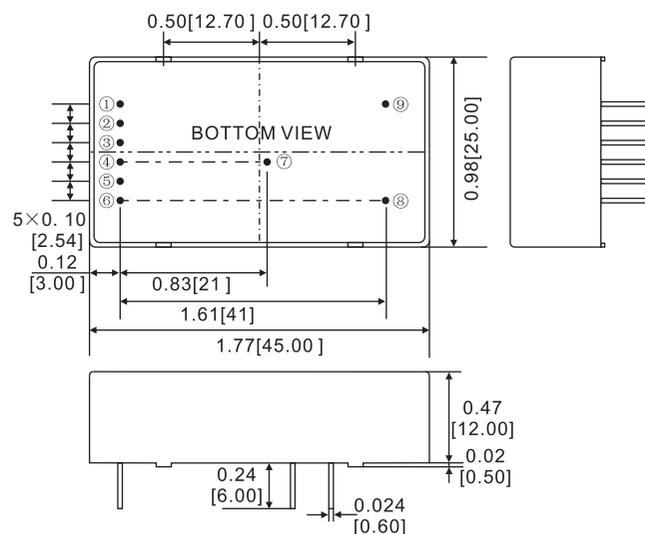
The case is internally connected to pin ① and ⑦. Pins ① and ⑦ are internally connected, and should be grounded.

\* The instability in the external controlling voltage should be minimised as it directly affects the output voltage quality.  
TC≤100ppm/°C PC≥1/4W

Typical ⑧ pin is negative High voltage output ⑨ pin is positive High voltage output, ⑧, ⑨ can be customized.

**MB DIMENSIONS**

DIMENSIONS: in. [mm]



**B**  
**DOUBLE-MODULES**