

- HIGH STABILITY DOUBLE OUTPUT
- ULTRA LOW TEMPERATURE COEFFICIENT 15PPM/°C
- COMPACT AND LIGHT WEIGHT, HIGH POWER DENSITY
- SIX-SIDED SHIELDED
- EXTERNAL POTENTIOMETER OR AN EXTERNAL VOLTAGE REFERENCE
- OEM CUSTOMIZATION AVAILABLE

## INTRODUCTION

Wisman's MBA series of 1W to 4W micro-modules that provide output voltages ranging from ±50V to ±3kV. MBA 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 and with arc, short circuit 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.

## MBA 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	1	MBA0.1*0.5/0.1*0.5	1	1	1	MBA1*0.5/1*0.5	2	0.5	1	MBA2*0.5/2*0.5	3	0.34	1	MBA3*0.5/3*0.5
	20	2	MBA0.1*1/0.1*1		2	2	MBA1*1/1*1		1	2	MBA2*1/2*1		0.67	2	MBA3*1/3*1
	30	3	MBA0.1*1.5/0.1*1.5		3	3	MBA1*1.5/1*1.5		1.5	3	MBA2*1.5/2*1.5		1	3	MBA3*1.5/3*1.5
	40	4	MBA0.1*2/0.1*2		4	4	MBA1*2/1*2		2	4	MBA2*2/2*2		1.34	4	MBA3*2/3*2
0.5	2	1	MBA0.5*0.5/0.5*0.5	1.5	0.67	1	MBA1.5*0.5/1.5*0.5	2.5	0.4	1	MBA2.5*0.5/2.5*0.5				
	4	2	MBA0.5*1/0.5*1		1.34	2	MBA1.5*1/1.5*1		0.8	2	MBA2.5*1/2.5*1				
	6	3	MBA0.5*1.5/0.5*1.5		2	3	MBA1.5*1.5/1.5*1.5		1.2	3	MBA2.5*1.5/2.5*1.5				
	8	4	MBA0.5*2/0.5*2		2.67	4	MBA1.5*2/1.5*2		1.6	4	MBA2.5*2/2.5*2				

Remark: 0 to maximum voltage and power can be customized.

## MBA SELECTION EXAMPLE

MBA	3	*	2 / 3	*	2	VP	5	VM	5	LS	12	
Series Number	Max. output Voltage (kV)	Output Polarity P:positive N:Negative	Max. Output Power (W)	Max. output Voltage (kV)	Output Polarity P:positive N:Negative	Max. Output Power (W)	Optional given VP: Voltage Programming	Optional given ratio 10:0to +10Vdc~0 to maximum output 5V:0to +5Vdc~0to maximum output	Optional display Vp: Voltage monitor	Optional display ratio 10:0to +10Vdc~0 to maximum output 5:0to +5Vdc~0 to maximum output	Optional startup method LS: GND=ON	Optional Input voltage 24:+24Vdc 15:+15Vdc 12:+12Vdc

Remark:

1. Standard module: one positive output, one negative output. Positive output sync and negative output sync can be customized.
2. One input controls double output can be customized.



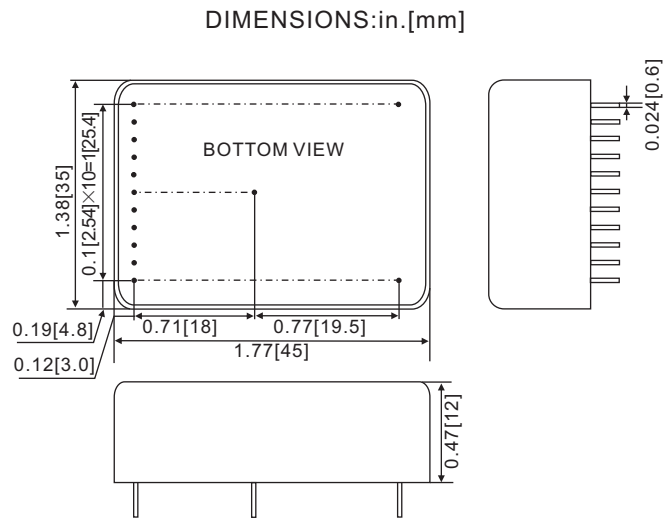
## MBA SPECIFICATIONS

PARAMETER	DESCRIBE
Input Voltage	+12Vdc±2%, input current ≤0.75A. +24Vdc, +15Vdc available.
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 5 +Vdc. Zin = 100kΩ.
Voltage Monitor	0 to +5Vdc=0 to max. Output.Zout=20kΩ , Accuracy=± 1% .
Voltage Line Regulation	±0.001% (for ±10% change in input voltage).
Voltage Load Regulation	±0.01 (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 1.38" W x 1.77" D (12mm x 35mm x 45mm).
Weight	50g

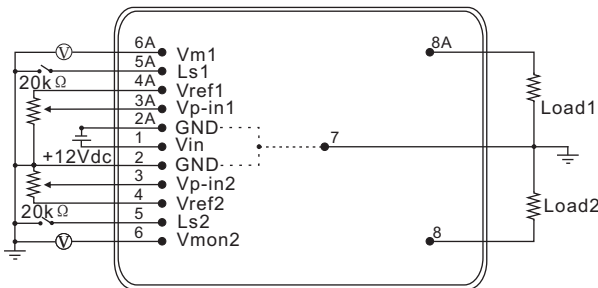
## MBA PIN INFORMATION

PIN	DESCRIPTION
1	Power Input+12Vdc±2%,Option +24Vdc,+15Vdc
2	Power Ground
2A	Power Ground
3	Voltage programming 2,0 to 5Vdc corresponds to 0 to 100% of rated output, Zin=100k Ω
3A	Voltage programming 1,0 to 5Vdc corresponds to 0 to 100% of rated output, Zin=100k Ω
4	+5Vdc Reference2
4A	+5Vdc Reference1
5	Ls2(ON=GND,OFF=OPEN)
5A	Ls1(ON=GND,OFF=OPEN)
6	Voltage monitor 2,0 to 5Vdc corresponds to 0 to 100% of rated output, Zout=20k Ω
6A	Voltage monitor 1,0 to 5Vdc corresponds to 0 to 100% of rated output, Zout=20k Ω
7	HV GND
8	Negative High Voltage Output
8A	Positive High Voltage Output

## MBA DIMENSIONS



## MBA CONNECTION DIAGRAM



- Standard module: 8A PIN can output positive ,Pin 8 can output negative
- The output power of each output can not beyond 2Watts

**B | DOUBLE-MODULES**