



- HIGH STABILITY: 10PPM/HR
- ULTRA LOW NOISE 10PPM
- ULTRA LOW TEMPERATURE COEFFICIENT 25PPM°C
- SIX-SIDED SHIELDED
- EXTERNAL POTENTIOMETER OR AN EXTERNAL VOLTAGE REFERENCE
- OEM CUSTOMIZATION AVAILABLE



A
MICRO-MODULES

INTRODUCTION

Wisman's MF series of high voltage 0.5~2W micro-modules that provide output voltages ranging from 3kV to 10kV. MF modules are compact six-sided shielded modules with ultra-low noise, high stability and ultra-low temperature coefficient. All models are provided with external potentiometer or an external voltage monitoring panel. This series modules have protection functions including over current protection, arc fault protection and short circuit 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.

MF SELECTION TABLE

kV	mA	P(W)	MODEL	kV	mA	P(W)	MODEL	kV	mA	P(W)	MODEL
3	0.17	0.5	MF3*0.5	6	0.08	0.5	MF6*0.5	8	0.06	0.5	MF8*0.5
	0.33	1	MF3*1		0.17	1	MF6*1		0.13	1	MF8*1
	0.67	2	MF3*2		0.33	2	MF6*2		0.25	2	MF8*2
4	0.125	0.5	MF4*0.5	6.5	0.08	0.5	MF6.5*0.5	9	0.5	0.5	MF9*0.5
	0.25	1	MF4*1		0.15	1	MF6.5*1		0.11	1	MF9*1
	0.5	2	MF4*2		0.30	2	MF6.5*2		0.22	2	MF9*2
5	0.1	0.5	MF5*0.5	7	0.07	0.5	MF7*0.5	10	0.05	0.5	MF10*0.5
	0.2	1	MF5*1		0.14	1	MF7*1		0.10	1	MF10*1
	0.4	2	MF5*2		0.28	2	MF7*2		0.20	2	MF10*2

MF SELECTION EXAMPLE

MF	10	*	2	VP	5	VIM	5	LS	24
Series Number	Maximum Output Voltage (kV)	Option Output Polarity P: positive N: negative	Maximum Output Power (W)	Option Programming Voltage given	Option Programming Proportion 10:0~+10Vdc=0 to max. output 5:0~+5Vdc=0 to max. output	Option Monitor VM: Voltage Monitor IM: Current Monitor	Option Monitor Proportion 10:0~+10Vdc=0 to max. output 5:0~+5Vdc=0 to max. output	Option Start Way Low level start	Option Input Voltage 24:+24Vdc input 15:+15Vdc input 12:+12Vdc input

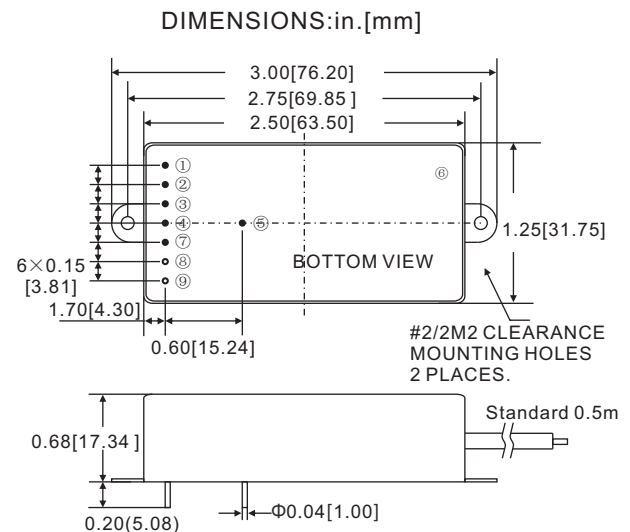
MF SPECIFICATIONS

PARAMETER	DESCRIBE
Input Voltage	+24Vdc±2%, input current≤350mA, +15Vdc±2%, +12Vdc±2% input available.
Output	3kV, 4kV, 5kV, 6kV, 6.5kV, 7 kV, 8kV, 9kV, 10kV optional.
Stability	0.001%/hour, 0.01%/8hour after a 30 minute hour warm-up period.
Temperature Coefficient	25ppm/°C.
Ripple	0.001% p-p of maximum output voltage.
Voltage Programming	By external 20kΩ potentiometer or external voltage control(Vp-in)0~+5Vdc. Zin = 100kΩ.
Voltage Monitor	0~+5Vdc=0 to 100% output. Zout = 20kΩ. Accuracy=±1%.
Voltage Line Regulation	±0.001% (input voltage change ±2%).
Voltage Load Regulation	±0.01% (no load to full load change).
Operating Temperature	0°C~+50°C.
Storage Temperature	-40°C~+85°C
Humidity	0%~90% RH, non-condensing.
Cooling	Convection cooled.
Dimensions	0.68" H x 1.25" W x 3.00" D (17.34mm x 31.75mm x 76.20mm).
Weight	65g.

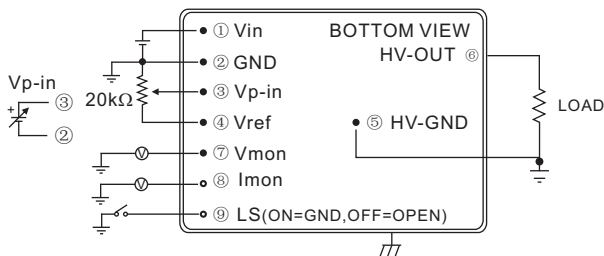
MF PIN INFORMATION

PIN	DESCRIPTION
1	Input voltage+24Vdc±2%, Option+15Vdc±2%, +12Vdc±2%
2	Power/Signal Ground
3	Voltage Programming, 0~5Vdc=0~100% of rated output, Zin=100kΩ
4	+5Vdc Reference
5	HV Ground
6	HV Output
7	Voltage monitor, 0~5Vdc=0~100% of rated output, Zout=20kΩ
8	Voltage Current, 0~5Vdc=0~100% of rated output, Zout=20kΩ
9	LS: GND=ON, OPEN=OFF(OPTION)

MF DIMENSIONS



MF CONNECTION DIAGRAM



- Pin ② and ⑤ are internally connected (isolated from CASE).
- CASE PIN should be always connected to ground.
- External potentiometer of T.C ≤ 100ppm/°C, PC ≥ 1/4W is recommended. The instability in the external controlling voltage should be minimised as it directly affects the output voltage quality.

CHARACTERISTICS OF OUTPUT VOLTAGE SETTING

