

Precision High Voltage Modules MP001, MP2.5, MP003

- Photomultipliers, electron multipliers, mass spectrometers, lens & bias supplies, surface science & analysis, test equipment.
- High stability, low ripple, low drift
- Short circuit & flashover proof
- PCB mounting
- 24 hour burn in
- Positive & negative versions
- 0-10V control input



This range of power supplies are miniature versions of the HP family giving up to 1kV, 2.5kV, or 3kV, at 2W. The units, which are programmable by a 0 to +10 volt signal, are intended to be mounted on a printed circuit board and offer high stability together with low drift. They use high frequency pulse width modulated switching techniques in conjunction with a ferrite step-up transformer to control the output voltage.

Electrical Specification: MP Series

Unit Type	Output voltage	Output current	Ripple at full load	Size (mm)	Weight (kg)
MP001PAA200	50V to 1kV	2mA	<50mVp-p	81 x 56.5 x 20	0.3
MP001NAA200	-50V to -1kV	2mA	<50mVp-p	81 x 56.5 x 20	0.3
MP2.5PAA200	100V to 2.5kV	1mA	<125mVp-p	81 x 61.5 x 35	0.3
MP2.5NAA200	-100V to -2.5kV	1mA	<125mVp-p	81 x 61.5 x 35	0.3
MP003PAA200	125V to 3kV	700uA	<150mVp-p	81 x 61.5 x 35	0.3
MP003NAA200	-125V to 3kV	700uA	<150mVp-p	81 x 61.5 x 35	0.3

Electrical Specification

Input	+24 volt dc $\pm 10\%$ <0.25A 0V input common to HV return and chassis
Control of output	0 to +10V gives zero to max o/p, tolerance $\pm 2\%$. $Z_{in} > 100k\Omega$
Voltage monitor	0V to +10V $\pm 2\%$ for 0% to 100% ($Z_{out} = 10k\Omega$)
Temp-Co	<200ppm/ $^{\circ}C$
Current monitor	Not Available
Line regulation	<100ppm for a 1V change in input voltage
Load regulation	<100ppm for load changes from 10% to 100%
Protection (all outputs)	Protected against intermittent arcing and continued short circuit to ground

MP Series

Mechanical Specification

Mountings	Blind Fasteners in base M2.5 see 'H' Outline Drgs
Input & Control	PCB Pins

Environmental Specification

Temperature, operating:	+10°C to +50°C	Humidity (RH) <31°C non-condensing:	80% maximum
Temperature, storage:	-35°C to +85°C	Humidity (RH) >30°C non-condensing:	Decrease linearly to 50% at 40°C
Altitude, operating:	Up to 2,000m	Altitude, storage:	Up to 18,000m

The unit is to be supplied from a current limited supply providing 24V dc, impulse limited to overvoltage Category I (of IEC60364-4-443).
For use in an environment of pollution degree 2.

Pin Assignments

1	+24V dc input	5	Voltage monitor o/p *1)
2	+V Control Input	6	1kV o/p *2) or nc
3	0V Control *3)	7	HV return
4	0V Power return		

Notes:

- *1) Voltage Monitor is optional on 1kV unit only.
It is fitted as standard on the 2.5kV and 3kV versions.
- *2) 1kV unit only Output is via the pin in the underside
2.5kV & 3kV units: Output is via the flying lead.
- *3) 2.5kV & 3kV units only

Part Number Selection

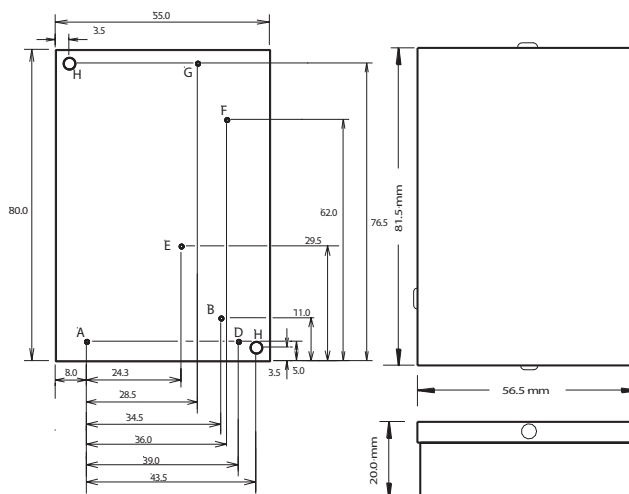
Series Code: MP

O/P Kv	Polarity	Options Code	Temp Co
001= 1kV	P= +ve	AA= no options	<200ppm/°C
2.5= 2.5kV	N= -ve	AV = Voltage Monitor Fitted *1)	

Example: -ve 1kV MP series with Voltage Monitor: MP001NAV200

Dimensions

Dimensions in mm
Projection/first angle



PCB FOOTPRINT AS SEEN FROM ABOVE

