

Excellence in High Voltage

MINIATURE HIGH VOLTAGE MODULES to 3kV MP001, MP2.5 & MP003

Applications:

Photomultiplier tubes

Lens & bias supplies

Test Equipment

- 2W programmable o/p Voltage
- Size 80mm x 55mm x 20mm (1kV)
- High stability, low ripple
- High frequency switch mode
- Short circuit and flashover proof
- 0-10 volt programming
- 24 hour burn in



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.

Applications include powering photomultiplier tubes, and electron multipliers in scientific and other instruments.

We manufacture a number of special versions of these units and would be pleased to discuss your volume application with you.

Electrical Specification

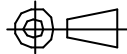
| UNIT TYPE | POLARITY | OUTPUT | RIPPLE AT FULL LOAD |
|-----------|----------|-----------------------------|---------------------|
| MP001P | POSITIVE | +50 volts to +1kV at 2mA | 50mV peak to peak |
| MP001N | NEGATIVE | -50 volts to -1kV at 2mA | 50mV peak to peak |
| MP2.5P | POSITIVE | +100 volts to -2.5kV at 1mA | 125mV peak to peak |
| MP2.5N | NEGATIVE | -100 volts to -2.5kV at 1mA | 125mV peak to peak |
| MP003P | POSITIVE | +125 volts to +3kV at 0.7mA | 150mV peak to peak |
| MP003N | NEGATIVE | -125 volts to -3kV at 0.7mA | 150mV peak to peak |

Mechanical Specification

| | |
|-----------------------------|---|
| INPUT VOLTAGE: - | +24 volt d.c. $\pm 10\%$ at 0.25amp maximum. |
| CONTROL: - | By 0 to +10V to give 0 to Full O/p Voltage $\pm 5\%$. |
| LINE REGULATION: - | Better than 100ppm for 1V change in input voltage. |
| LOAD REGULATION: - | Better than 100ppm for 0 to full load. |
| RIPPLE:- | Better than 50ppm peak to peak (measured at maximum voltage and current). |
| TEMPERATURE CO-EFFICIENT: - | Typically <200ppm/ °C. Tighter versions available. |
| OPERATING TEMPERATURE: - | 0 °C to +50 °C |
| STORAGE TEMPERATURE: - | -35 °C to +85 °C |
| R.F.I.: - | Choke input filter |
| Size:- | 80mm x 55mm x 20mm. – MP001 80mm x 60mm x 35mm. – MP2.5 & MP003 |
| OUTPUT:- | Pins for 1kV, o/p by flying lead for units >1kV. |

| | | | | | |
|-------------|--|-------------|----------|----------------------------|---------|
| Order Code: | Series Code | o/p kV | Polarity | Options Code | Temp Co |
| | MP | 001 = 1kV | P= +ve | AA= no options | 200 |
| | | 2.5 = 2.5kV | N= -ve | AV= Voltage Monitor Fitted | |
| | | 003= 3kV | | | |
| e.g | -1kV MP series with Voltage Monitor Option fitted: MP001NAV200 | | | | |

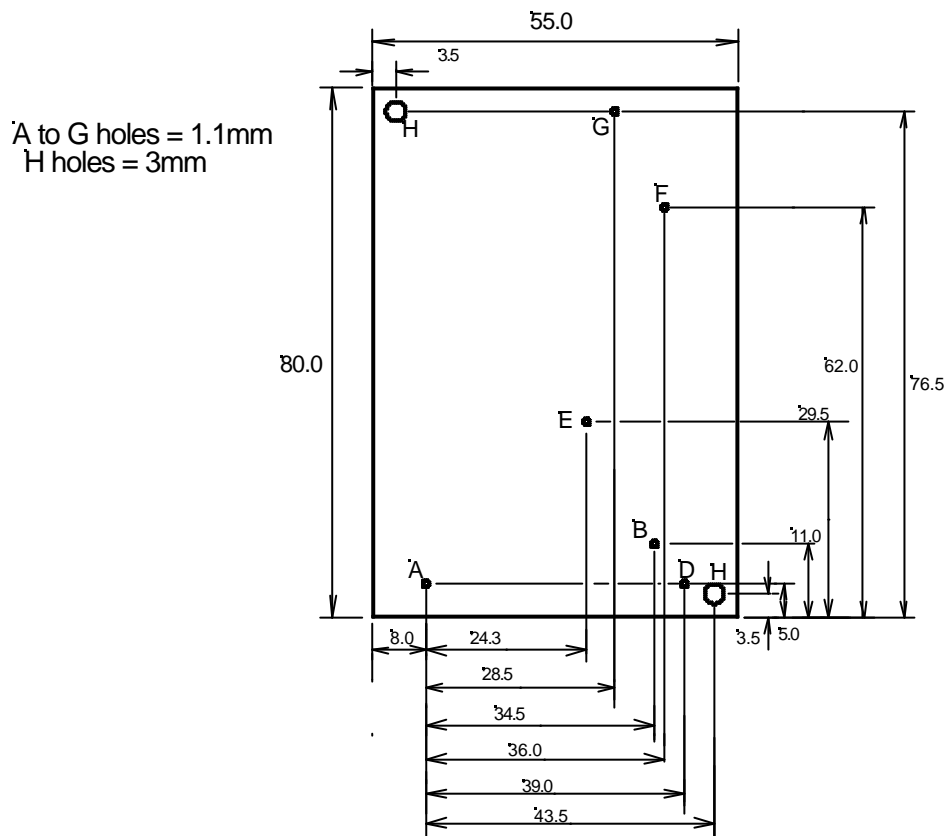
THIRD ANGLE PROJECTION



DO NOT SCALE

REMOVE ALL BURRS AND SHARP EDGES

MP1P & MP1N (only)



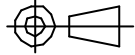
- A +24V POWER
- B +10V CONTROL
- C
- D GND (POWER)
- E VOLTAGE MONITOR O/P (Option)
- F 1kV OUTPUT
- G GND (HV)

Note: Drawing is for information only, not to be used for manufacturing

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| | | | | |
|----------|--|---------------------------------------|----------------------------|----------------------|
| MATERIAL | | TOLERANCES | APPLIED KILOVOLTS LTD | 01273 439440 |
| FINISH | | OVERALL DIMENSIONS $\pm 0.5\text{mm}$ | TITLE MP Pin out & Fixings | |
| ARTWORK | | HOLE POSITIONS $\pm 0.2\text{mm}$ | Date 15/1/02 | Iss C Drg No AK70005 |

THIRD ANGLE PROJECTION



DO NOT SCALE

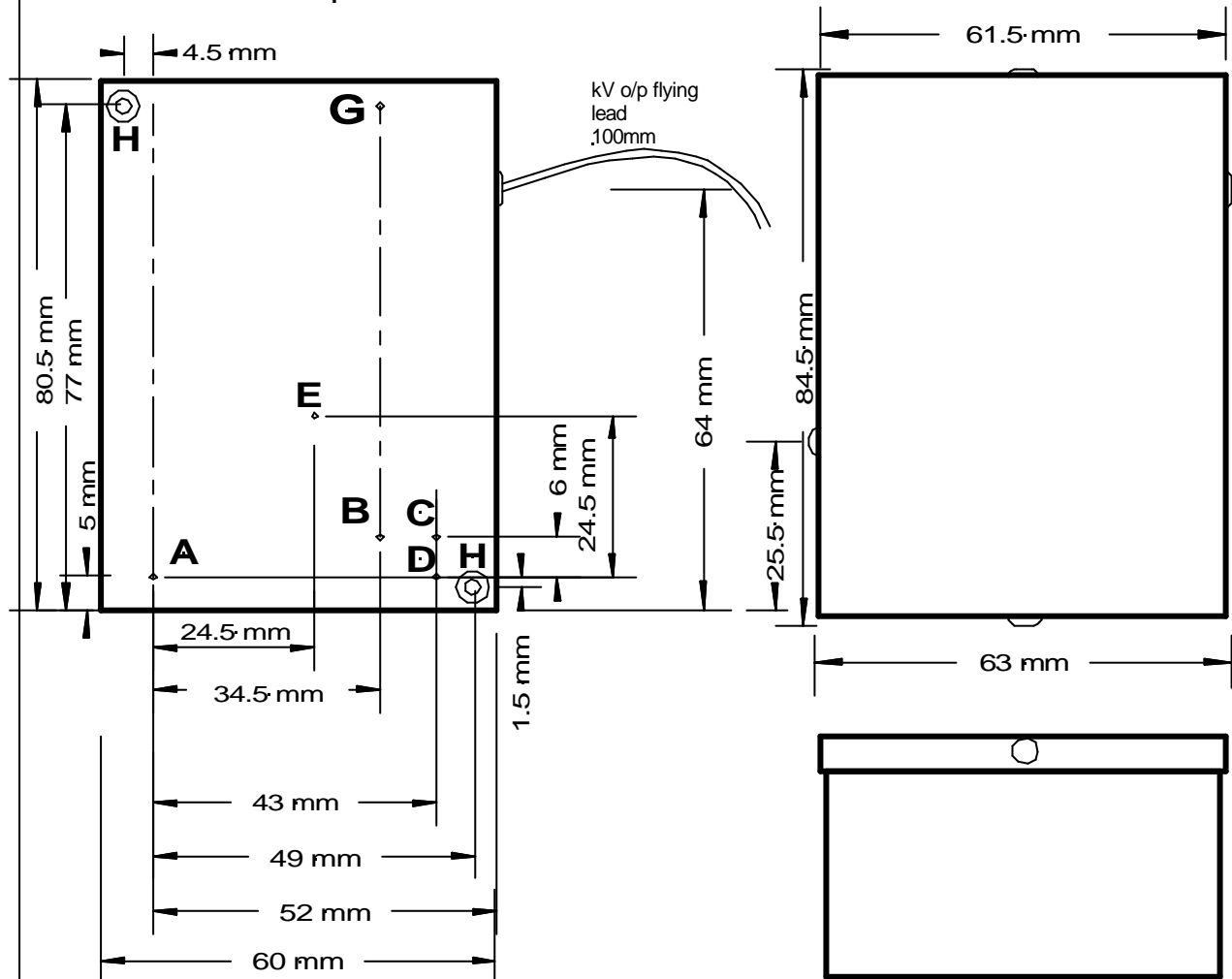
REMOVE ALL BURRS AND SHARP EDGES

MP2.5P & N, MP003P & N

TOP VIEW

PCB Footprint

Lid



- A +24V POWER
- B +10V CONTROL
- C 0V CONTROL
- D GND (POWER)
- E VOLTAGE MONITOR O/P (Option)

G GND (HV)

A to G Pins = 0.5mm sq

H bolts = 3mm

Note: Drawing is for information only, not to be used for manufacturing

Box is 35mm High

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| | | | | |
|----------|--|---------------------------------------|-----------------------|-----------------------------|
| MATERIAL | | TOLERANCES | APPLIED KILOVOLTS LTD | 01273 439440 |
| FINISH | | OVERALL DIMENSIONS $\pm 0.5\text{mm}$ | TITLE | MP2.5 & 3 Pin out & Fixings |
| ARTWORK | | HOLE POSITIONS $\pm 0.2\text{mm}$ | Date | 6/9/04 |
| | | | Iss | D |
| | | | Drg No | AK70028 |

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