



FEATURES

- 1.5W continuous output power
- PCB Mounting
- Small size
- Outputs up to 3kV
- Positive or negative polarity
- Output proportional to input
- No minimum load requirements
- Input polarity protected
- Open and short circuit protected
- EU RoHS Compliant to 2011/65/EU
- CE Marked (LVD)

DESCRIPTION

The Series MPM is a unique range of low cost, general purpose high voltage DC to DC converters. All units are configured for direct PCB mounting and are intended to be “designed in” to the customer’s equipment as a component. The Series MPM is suitable for ink jet printing, electrostatic precipitation, Geiger-Muller tubes, photomultiplier tubes, electron beam deflection and focussing, as well as various general purpose applications.

The MPM’s unregulated output is proportional to the input voltage. Alternatively external feedback control loops can be added to provide regulated outputs. The converters are vacuum encapsulated in an ABS case to ensure maximum reliability and safety. Standard MPM models are three pin devices which provide a common 0V for input and output. All models are available with a range of input and output voltages, with either positive or negative output.

Series MPM units are fully encapsulated in silicone rubber to give reliable and consistent operation over wide environmental conditions. All units are fully ATE tested to ensure consistent performance.

If none of the standard models in this datasheet suit your requirements, please contact our sales team about a custom version.

SPECIFICATION

Output Voltage:

Units available with maximum output voltages from 100V to 3kV. See Table for specific versions.

Output Power:

1.5W max continuous.

Input Voltage:

12V units 1.2V-12V for 10-100% output voltage.
 24V units 2.4V-24V for 10-100% output voltage.

Input Current:

12V units typically 40mA offload, 200mA fully loaded.
 24V units typically 25mA offload, 110mA fully loaded.

Polarity:

Positive or negative to order.

Load Regulation:

Typically less than 10% (for a 0 to 1.5W load change), maximum 20%.

Line Regulation:

Output is proportional to input over a 10% to 100% input range.

Stability:

Less than 0.1% after stabilisation and over an 8 hour period.

Ripple:

0.5% peak to peak (0.05% for Screened Case version).

MTBF:

More than 500,000 hours MTBF as per IEC62380:2004.

Efficiency:

Better than 50% at 1.5W load.

Oscillator Frequency:

30kHz to 200kHz depending on model.

Series MPM

MINIATURE HIGH VOLTAGE DC-DC CONVERTERS



Protection:

Protected against intermittent short circuit and flashover.

Environmental:

Operating temperature: -10°C to +60°C
 Storage temperature: -40°C to +85°C
 Humidity: 80% maximum relative humidity up to 31°C, reducing linearly to 50% at 40°C. Non-condensing.
 Altitude: Sea level to 2000m.

Temperature Coefficient:

Less than 300ppm/°C.

Options:

Screened Case: Screened case of tin plate construction with its own pin reduces radiated noise and output ripple.

Isolated unit: Isolated units give input to output isolation of up to 100V. This can allow, for example, a sense resistor to be added for load current measurements. A capacitor may be added between the input 0V and output 0V to reduce common mode ripple.

Safety:

This DC-DC converter meets the requirements of the Low Voltage Directive (LVD) 2006/95/EC, by complying with BS EN60950 when it is installed as a component part of other equipment and is CE marked accordingly.

RoHS:

The Series MPM meets the requirements of EU Directive 2011/65/EU on the Restriction of use of certain Hazardous Substances in Electrical and Electronic Equipment (RoHS).

Mechanical specification:

Dimensions: See outline drawing
 Weight: 60g (2 oz) approx.

Outputs and ordering information:

Model no	Input Voltage	Output Voltage	Output Current
MPM12-100*	12V	100V	15mA
MPM24-100*	24V	100V	15mA
MPM12-200*	12V	200V	7.5mA
MPM24-200*	24V	200V	7.5mA
MPM12-300*	12V	300V	5mA
MPM24-300*	24V	300V	5mA
MPM12-500*	12V	500V	3mA
MPM24-500*	24V	500V	3mA
MPM12-1K*	12V	1kV	1.5mA
MPM24-1K*	24V	1kV	1.5mA
MPM12-1K5*	12V	1.5kV	1mA
MPM24-1K5*	24V	1.5kV	1mA
MPM12-2K*	12V	2kV	0.75mA

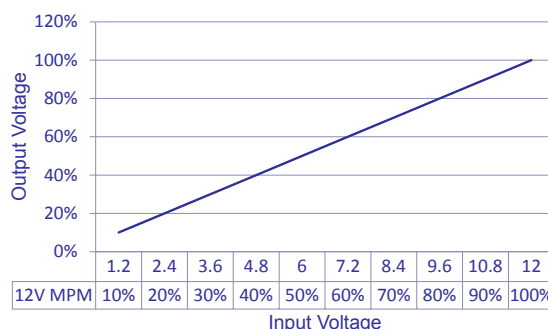
Model no	Input Voltage	Output Voltage	Output Current
MPM24-2K*	24V	2kV	0.75mA
MPM12-3K*	12V	3kV	0.5mA
MPM24-3K*	24V	3kV	0.5mA

*Please add the required suffix to the model number:

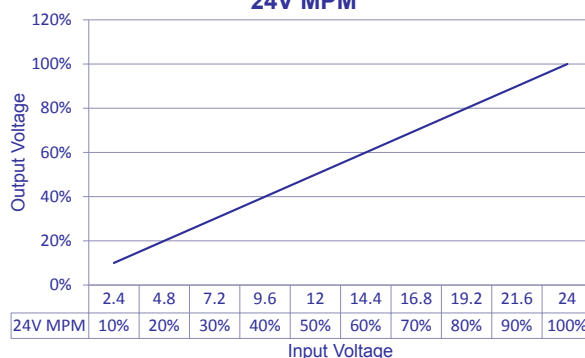
- P or N Positive or negative polarity.
- S Screened version
- I Isolated unit

eg MPM12-300PS for a 12V input voltage, 300V output voltage, positive, screened unit.

12V MPM



24V MPM

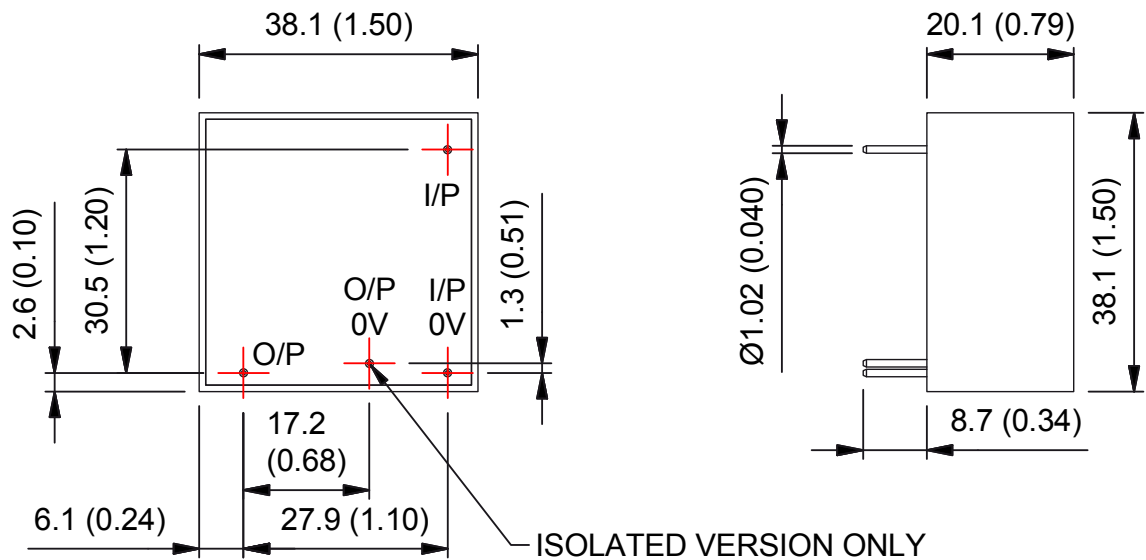


CE These component power supplies meet the requirements of EC Directive 2006/95/EC (LVD).

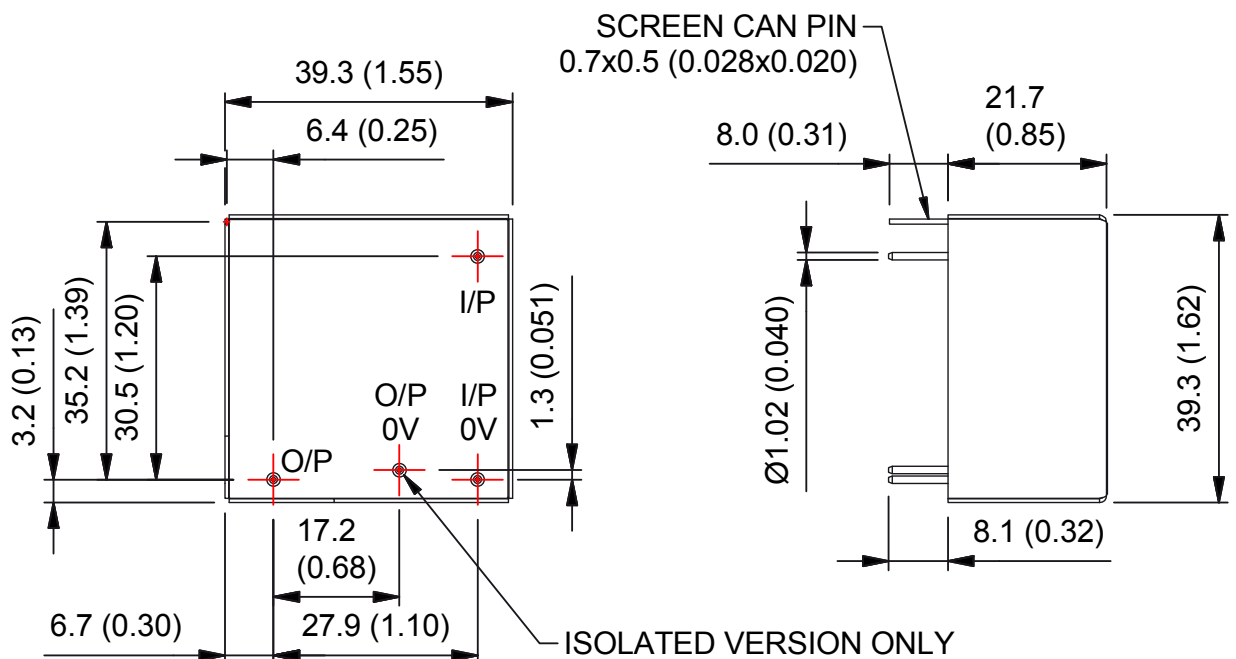
Series MPM

MINIATURE HIGH VOLTAGE DC-DC CONVERTERS

UNSCREENED VERSION



SCREENED VERSION



Drawing dimensions are in mm (inches)
Design developments may result in specification changes

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