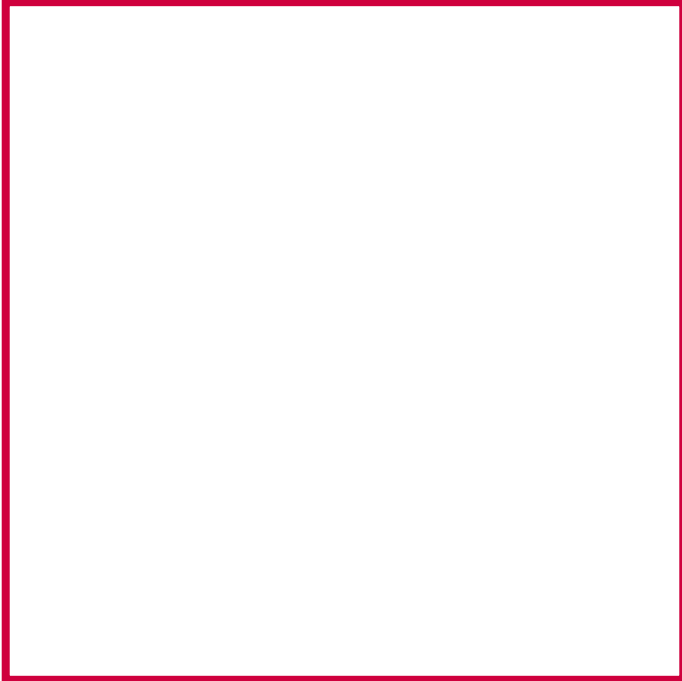


# Series PMM4

## PHOTOMULTIPLIER POWER SUPPLY MODULES



### FEATURES

- 4W output power
- Directly compatible with industry standard PMT supplies
- Remote voltage monitoring
- Remote voltage programming
- Remote resistance programming
- Low output ripple
- Short circuit & overload protection
- C€ marked (LVD)

### DESCRIPTION

The Series PMM4 is a range of versatile high voltage power supply modules which have extremely low output ripple and are directly compatible with industry standard PMT supplies.

Available with +24V DC or ±15V DC input, these units allow control of the output voltage by voltage or potentiometer. Output voltage monitoring is also provided.

The modules are designed for incorporation as component power supplies for applications such as photomultipliers, solid state detectors, piezo crystal devices, ultrasonic transducers, microchannel plates, spectroscopy, scintillation counters and channel electron multipliers.

### SPECIFICATION

#### Output Power:

4W max at full rated output voltage and current.

#### Output Voltage:

10V-500V to 10V-2kV max depending on model (see table).

#### Output Current:

2mA to 8mA max depending on model (see table).

#### Input Voltage Range:

+23V to +30V DC as standard.

Choose order Option 1 for ±12V to ±18V DC.

#### Input Current:

400mA max.

#### Output Polarity:

Positive or negative to order.

#### Line Regulation:

Less than 0.001% for a 0.3V change in input voltage.

#### Voltage Load Regulation:

Less than 0.001% change in output voltage for 0 to 100% load change.

#### Ripple:

2mV to 5mV depending on model (see table).

#### Voltage Control:

Voltage Demand: 0 to 9V for 0V to max output voltage.

Input Impedance: Greater than 100kΩ.

#### Using voltage control:

Connect demand voltage to pin 8 with 0V on pin 7 (pin 12 on units with Option 1).

#### Using external potentiometer (5kΩ):

Connect clockwise terminal to pin 10, counter-clockwise terminal to pin 7 (pin 12 on units with Option 1). Connect wiper to pin 8.

#### Using internal potentiometer:

Link pins 8 and 9.

#### Monitors:

Voltage: PMM4/501: 0 to 5V ±2% for 0 to 500V output (50kΩ output impedance).

PMM4/102: 0 to 1V ±2% for 0 to 1kV output (10kΩ output impedance).

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PMM4/202: 0 to 2V  $\pm 2\%$  for 0 to 2kV output (25k $\Omega$  output impedance).

N for negative polarity  
1 for  $\pm 12V$  to  $\pm 18V$  DC input voltage.

### Stability:

Less than 50ppm per hour at constant ambient temperature and rated output power after 1 hour warm-up.

### Temperature Coefficient:

Less than 50ppm/ $^{\circ}C$  at max output power.

### Operating Temperature:

$0^{\circ}C$  to  $50^{\circ}C$  at up to 90% RH non-condensing.

### Storage Temperature:

$-20^{\circ}C$  to  $+70^{\circ}C$ .

### Altitude:

Sea level to 2000 metres (6500 feet).

### Reliability:

Mean Time Between Failure (MTBF) is greater than 100,000 hours. In accordance with MIL-HDBK-217F.

### Protection:

The PMM4 is protected against continuous short circuit and flashover.

### Safety:

Meets the requirements of the Low Voltage Directive, 73/23/EEC, by complying with BS EN60950 when installed as a component part of compliant equipment. Units are CE marked accordingly.

### RoHS:

The Series PMM4 is currently built to non-RoHS standard. This unit can, however, be configured to meet the requirements of RoHS where significant customer demand requires it, although please note that this will have an impact on delivery timescales.

### Mechanical Specification:

Dimensions: See outline drawing.  
Weight: 0.3kg (0.7 lb)  
Construction: Fabricated alloy with black painted finish.  
Earthing: Case internally connected to 0V.  
Output connection: 610mm long screened flying lead (see drawing). Please note this unit is available to special order with BNC connector, AMP type 1-221128-1 or equivalent.

### Output and Ordering Information:

Model no	Output Voltage	Output Current	Ripple pk-pk	Output Stored Charge
PMM4/501*	10V-500V	8mA	<5mV	<80 $\mu$ C
PMM4/102*	10V-1kV	4mA	<4mV	<35 $\mu$ C
PMM4/202*	10V-2kV	2mA	<2mV	<35 $\mu$ C

\* Please add the required suffix:

P for positive polarity

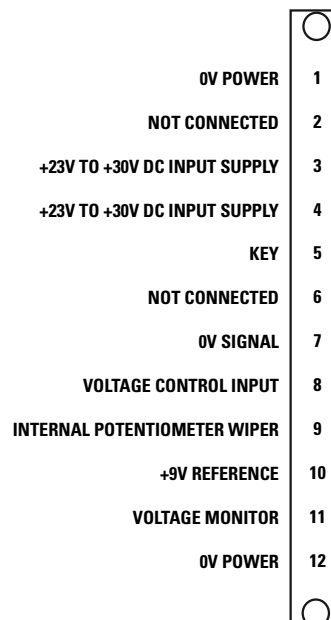
eg PMM4/102P1 for a positive polarity unit with  $\pm 12V$  to  $\pm 18V$  input voltage and 10V to 1kV output voltage.

This model is only one of a selection of photomultiplier modules available from HiTek Power. Should you require a different output voltage or current please contact our sales team.

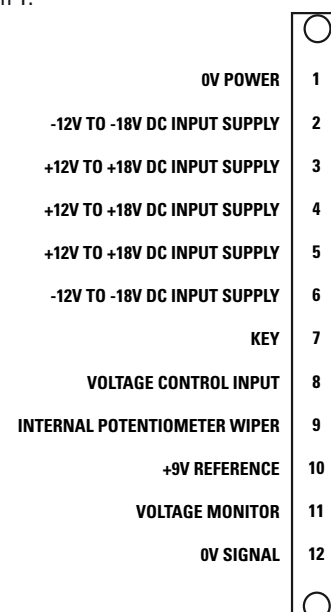
### Interface Connections:

12-way PCB edge connected fitted to module.  
Mating half: Amphenol 143-012-01 or equivalent (supplied).

Standard PMM4:



PMM4 with Option 1:



CE These component power supplies meet the requirements of EC Directive 73/23/EEC (LVD).