

# Model PPM3/142

## PRECISION PHOTOMULTIPLIER POWER SUPPLY MODULE



### FEATURES

- 3W output power
- Small size, lightweight
- High performance for precision applications
- Circuit Board Mounting
- DC 0-10V programming signal
- Radiation screened construction
- High reliability
- Short circuit & overload protected
- RoHS Compliant to EU Directive 2002/95/EC
- CE marked

### DESCRIPTION

The PPM3/142 is a compact, high reliability, photomultiplier power supply module which has considerable advantages in size, weight and specification over other competitive units for photomultiplier applications; and for those applications where 3W output power is sufficient and high performance is essential. Applications include photomultipliers, microchannel plates, precision electrostatic lenses, image intensifiers and spectroscopy.

The PPM3/142 is configured for direct PCB mounting and for "designing-in" to equipment as a component. Line, load and ripple performance, together with many other aspects of the specification, are all you would expect from this professional photomultiplier module and, due to the wide input range of 21V to 27V DC, the unit can be used with various types of DC input supply.

### SPECIFICATION

#### Output Power:

3W at full rated output voltage and current.

#### Output Voltage:

1.4kV max.

#### Output Current:

2mA max (minimum load impedance 100k $\Omega$ ).

#### Input Voltage:

21V to 27V DC (case internally connected to 0V).

#### Input Current:

240mA max.

#### Output Polarity:

Positive or negative to order.

#### Line Regulation:

Less than 0.14V (100ppm) output change, for a 21V to 27V input change.

#### Load Regulation:

Less than 0.14V (100ppm) output change, for a change from zero to full load current.

#### Ripple:

15mV peak to peak max at rated output voltage and current, typically 5mV.

#### Voltage Control:

1V to 10V input for 140V to 1.4kV output (input impedance greater than 10k $\Omega$ ).

#### Temperature Coefficient:

Better than 50ppm/ $^{\circ}$ C at max output voltage.

#### Operating Temperature:

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

#### Altitude:

Sea level to 2000 metres (6500 feet).

#### Protection:

When overloaded, the unit becomes a constant current source between 3mA and 4mA and will operate in this way until the overload is removed.

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### 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.

### Operation:

With an output of 1.4kV at 2mA, the control of output voltage is achieved by applying a positive 0-10V DC voltage to the control pin. Alternatively, an internal DC reference voltage is brought out to another pin, so that an external potentiometer can be connected to control or to pre-set the output voltage. The input/output voltage rate-of-response or slew rate is unusually fast; for example, the resistively loaded output will change from 10% to rated voltage in less than 15ms, with fall time over the same levels being less than 40ms. 10V reference output is capable of supplying 1mA.

### Construction:

The PPM3/142N is intended for circuit board mounting and the gold-plated connecting pins can be used to plug in, or to be soldered to a Printed Circuit Board. A machined aluminium alloy case is used for good heat dissipation and screening. A tapped hole and screw for fixing are provided at each corner of the underside of the case.

### RoHS:

The Model PPM3/142 meets the requirements of EU Directive 2002/95/EC on the Restriction of use of certain Hazardous Substances in Electrical and Electronic Equipment (RoHS).

### Mechanical Specification:

Dimensions: See outline drawing.  
Weight: 110g (4 oz).  
Case fixings: 4 tapped holes, 8mm deep, are provided together with M2 screws.

### Output and Ordering Information:

Model no	Output Voltage	Output Current
PPM3/142*	1.4kV	2mA

\* Please add either suffix P for positive polarity, or N for negative polarity, eg PPM3/142N for a negative polarity unit.

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.



### **UK**

HiTek Power Ltd  
Hawthorn Road, Littlehampton  
West Sussex BN17 7LT  
UK  
Tel: **+44 (0) 1903 712400**  
Fax: **+44 (0) 1903 712500**  
e-mail: [sales.uk@hitekpower.com](mailto:sales.uk@hitekpower.com)

### **GERMANY**

HiTek Power GmbH  
Joh.-Friedr.-Boettger-Str. 21  
D-63322 Roedermark  
Germany  
Tel: **+49 (0) 6074 69285 0**  
Fax: **+49 (0) 6074 69285 10**  
e-mail: [sales.de@hitekpower.com](mailto:sales.de@hitekpower.com)

### **USA**

HiTek Power Inc  
124 Jewett Street, Unit #2  
Georgetown, MA 01833-1868  
USA  
Tel: **+1 (978) 352-9100**  
Fax: **+1 (978) 352-9133**  
e-mail: [sales.us@hitekpower.com](mailto:sales.us@hitekpower.com)

### **JAPAN**

HiTek Power Japan  
1-5-13 Kyutaroumachi  
Chou-ku, Osaka 541-0056  
Japan  
Tel: **+81 (6) 6271 8180**  
Fax: **+81 (6) 6271 8190**  
e-mail: [info@hitekpowerjapan.co.jp](mailto:info@hitekpowerjapan.co.jp)