

PPM1-112 Series

Photo Multiplier DC/DC Converter Module 14~23 VDC Input / -1100 VDC Output

DESCRIPTION

This compact, high reliability, photomultiplier power supply module has considerable advantages in size, weight and specification over other competitive units for PM applications; and for those applications where 1W output power is sufficient and high performance is essential. The unit is a directly compatible plug-in alternative to the Hamamatsu model C1309-04, 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 14V to 23V DC the unit can be used with various types of DC input supply.

Operation: With an output to -1.1kV at 0.7mA, the control characteristics are a close match to those of the Hamamatsu C1309-04, with the added advantage of a wider supply voltage range; the Power Input Pins 1 and 2 can be joined together for operation from a single external supply of +14V to +23V.

Construction: The PPM1/112 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. Case finish is semi-matt black paint with screen-printed legends. Each unit has its own serial number label which provides manufacturing date traceability, together with pin connections.

Safety: The amount of stored energy is usually small, as indicated by the good output voltage slew rate. However, any high voltage power supply is capable of generating voltages which can be lethal, and so should only be installed, tested and used by personnel who have received appropriate training and who are fully aware of hazards that exist.

SPECIFICATION

Input Voltage:	14V to 23V DC (pins 1 and 2 joined). NOTE: If preferred, the voltage on Pin 2 can be lower than the voltage on Pin 1.
Input Current:	140mA max (pins 1 and 2 joined), or 130mA max pin 1, 10mA max pin 2.
Output Voltage:	-1100V max.
Output Current:	700µA max.
Output Polarity:	Negative.
Load Regulation:	<0.1 (100ppm) output change, for a change from 0 to 700µA load current.
Line Regulation:	<0.1V (100ppm) output change, for a 14V to 23V input change.
Output Ripple:	<25mV peak to peak at -1100V/700µA.
Voltage Control:	0 to 1.4V input for -1100V to -200V output (pin4). ($V_{out} = V_{in} \times 657 - 1100$) tolerance +/- 40V.
Resistance Control:	0 to 10kΩ input for -1100V to -200V output (Pin 3 to Pin 4). ($V_{out} = 2300/(15200/R+1) - 1100$) tolerance +/-60V).
Temperature Coefficient:	Better than 50ppm/°C at max output and load current.
Operating Temperature:	0°C to 50°C at up to 90% RH non-condensing.
Altitude (Operating):	Sea level to 3000 metres.
Protection:	When overloaded, the unit becomes a constant current source at about 1mA, and will operate in this way until the overload is removed.
Stability after Warm-Up:	Better than 200ppm/hour, measured at -1100V and 700µA with constant ambient temperature.
Mechanical Specification:	Weight: 110g. Size 77mm (3.03") x 54mm (2.12") x 23mm (0.90") (high). Case fixings: 4 tapped holes, 8mm deep, are provided together with M2 screws.
Ordering Information:	PPM1/112N - negative output - standard model. NOTE: The case and baseplate are internally connected to Pin 3, which is 0V, the return path for input and control.

THE ABOVE IS ONE OF A SELECTION OF PHOTOMULTIPLIER MODULES AVAILABLE FROM HITEK POWER. SHOULD YOU HAVE A REQUIREMENT FOR DIFFERENT OUTPUT VOLTAGES, CURRENTS, AND INPUT CONTROLS THEN PLEASE CONTACT OUR TECHNICAL SALES DEPARTMENT.

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



FEATURES

- Directly compatible with Hamamatsu Model C1309-04
- Small size, lightweight
- High performance for precision applications
- High reliability
- Short circuit & overload protected
- Low cost
- Operational from a single supply of 14V to 23V DC
- CE Marked (LVD)

APPLICATIONS

- Replacement of Hamamatsu Power supply
- Photomultipliers
- Microchannel plates
- Precision Lenses
- Image intensifiers
- Precision uses in general



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