

Amplified Photomultiplier



PMM02

Description

The PMM02 is an amplified photomultiplier tube designed for detection of light signals from DC to 20 kHz. A buffered output drives a 50 Ω impedance up to 5 V. The PMM02 housing includes SM1 (1.035" x 40) threads that are compatible with any number of Thorlabs' SM1 threaded accessories. The housing also includes threaded holes that are compatible with Thorlabs' 30 mm cage system. These features allow convenient mounting of external optics, light filters, and apertures, as well as provide an easy mounting mechanism using the Thorlabs cage assembly accessories. The PMM02 has three 8-32 tapped mounting holes with 0.2" mounting depth and includes a power supply.

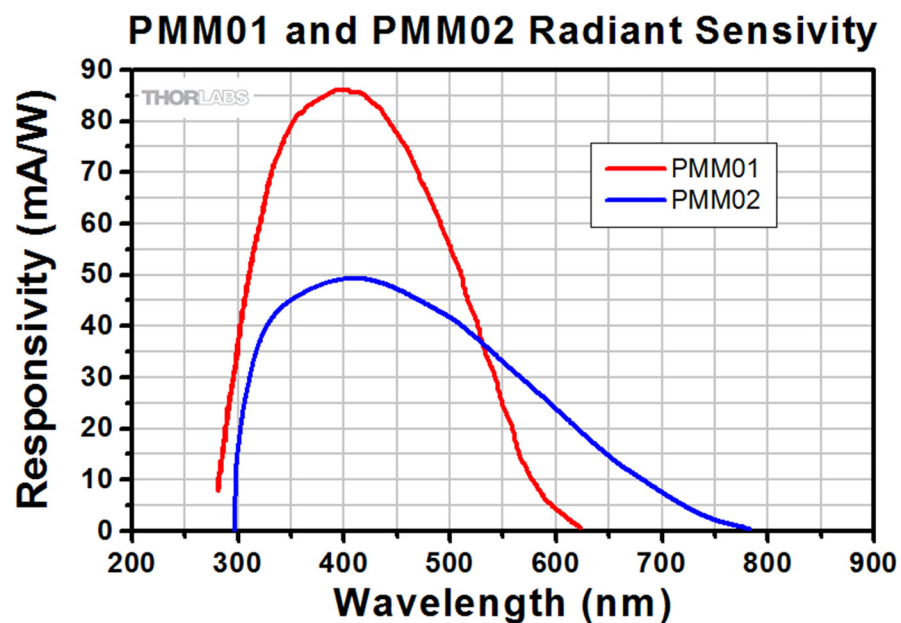
Specifications

PMM02		
Photomultiplier Module		
Photocathode Type	Multialkali	
Photocathode Geometry	Head-On	
Dynode Chain Orientation	Circular	
Photocathode Active Diameter	21 mm	
Wavelength Range	300 - 800 nm	
Wavelength of Maximum Response	420 nm	
Tube Gain (Typ.)	5.1×10^5	
Peak Responsivity @ 420 nm (Typ.)	51 mA/W	
Quantum Efficiency at Peak (Typ.) ^a	15%	
Transimpedance Gain	Hi-Z: 1×10^6 V/A 50 Ω : 5×10^5 V/A	
Dark Current ^b	Typical	3 nA
	Maximum	20 nA
Bandwidth (6 dB) ^c	0 - 20 kHz	
Amplifier Noise (Typ.)	2 mV (RMS)	
Amplifier Offset (Typ.)	1 mV	
Output Rise and Fall Times	15 μ s	
Output Impedance	50 Ω	
Output Signal ^d	0 - 10 V (Unterminated) 0 - 5 V (Term. into 50 Ω)	
Power Input	+12 V to +15 V: 40 mA -12 V to -15 V: 10 mA	
Anode Current (Max)	100 μ A	
Tube Voltage	0 to -1250 V	
HV Voltage Control (Max) ^e	+1.25 V	
HV Control Connector	2.5 mm Mono Jack	
HV Control Sensitivity	-1000 V/V	
Warm Up Time	<10 s	
Output Connector	SMA	

PMM02	
General	
Module Dimensions	3.65" x 1.60" x 2.46" (92.8 x 40.6 x 62.5 mm)
Operating Temperature	5 to 55 °C
Storage Temperature	-40 to 55 °C
Mounting Holes	8-32
Weight (Module)	200 g (0.44 lbs.)
Weight (Total)	1.3 kg (2.94 lbs.)
Window Characteristics	
Material	Borosilicate
Type	Plano-Concave

- a. Calculated from Radiant Sensitivity
- b. After 30-Minute Storage in Darkness
- c. The bandwidth decreases with increased output signal levels.
- d. The output signal should be below the maximum gain to avoid saturation. Use ND filters if necessary.
- e. Subject to not exceeding the rated gain of the PMT.

Plot



Drawings

