



PMM01

Description

The PMM01 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 PMM01 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 PMM01 has three 8-32 tapped mounting holes with 0.2" mounting depth and includes a power supply.

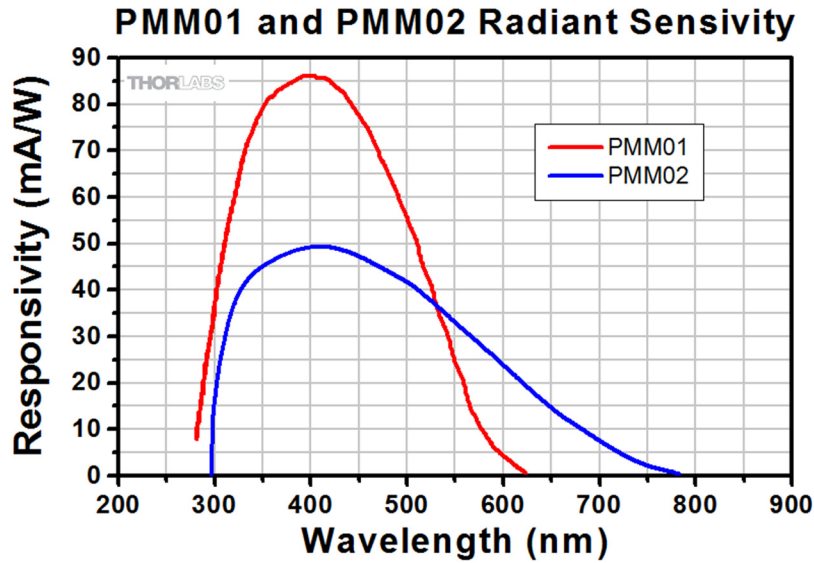
Specifications

| PMM01 | |
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| Photomultiplier Module | |
| Photocathode Type | Bialkali |
| Photocathode Geometry | Head-On |
| Dynode Chain Orientation | Circular |
| Photocathode Active Diameter | 22 mm |
| Wavelength Range | 280 - 630 nm |
| Wavelength of Maximum Response | 400 nm |
| Tube Gain (Max) | 7.1×10^6 |
| Peak Responsivity @ 400 nm (Typ.) | 80 mA/W |
| Quantum Efficiency at Peak (Typ.) ^a | 25% |
| Transimpedance Gain | Hi-Z: 1×10^6 V/A 50 Ω : 5×10^5 V/A |
| Dark Current (@ 20 °C) | 0.3 - 3 nA |
| Dark Count Rate (@ 20 °C) | 100 s ⁻¹ |
| Bandwidth (6 dB) ^b | 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 ^c | 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 -1800 V |
| HV Voltage Control (Max ^d) | +1.8 V |
| HV Control Connector | 2.5 mm Mono Jack |
| HV Control Sensitivity | -1000 V/V |
| Warm Up Time | <10 s |
| Output Connector | SMA |

| PMM01 | |
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| 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) | 1.2 kg (2.67 lbs.) |
| Window Characteristics | |
| Material | Borosilicate |
| Type | Plano-Concave |
| Refractive Index | 1.49 |
| Potassium (K) | 300 ppm |
| Thorium (Th) | 250 ppm |
| Uranium (U) | 100 ppm |

- Calculated from Radiant Sensitivity
- The bandwidth decreases with increased output signal levels.
- The output signal should be below the maximum output voltage to avoid saturation. Use ND filters if necessary.
- Subject to not exceeding the rated gain of the PMT.

Plot



Drawings

