

PMH-100

High Speed PMT Detector Head for Photon Counting

Applicable for Time-Correlated, Steady State and Gated Photon Counting

Non-descanned Detector for TCSPC Imaging

Excellent Time Resolution for TCSPC: < 220 ps FWHM

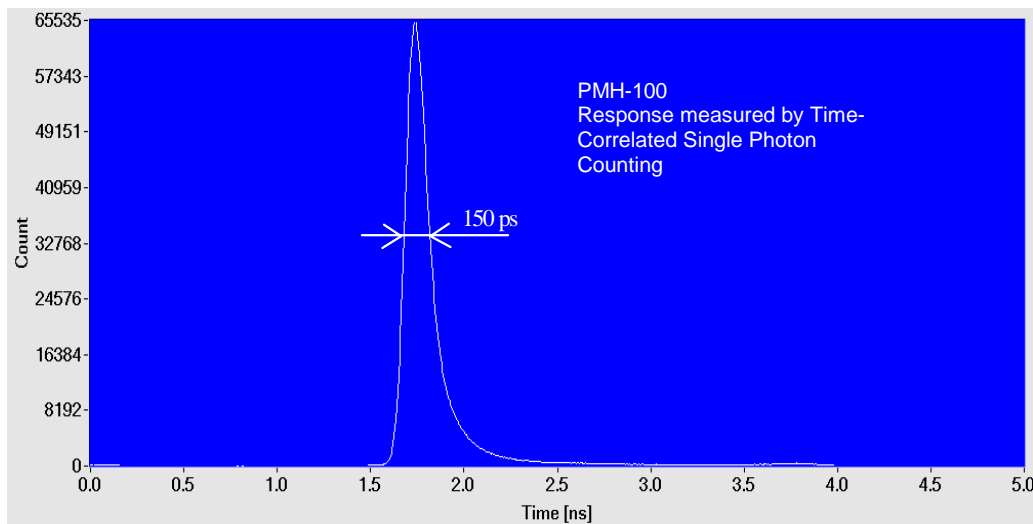
Internal GHz Preamplifier: High Output Amplitude

PMT Overload Indicator

Simple + 12 V Power Supply

Direct Interfacing to all bh Photon Counting Devices

The PMH-100 is a complete detector head for photon counting applications. It contains a fast PMT, a high voltage generator, a GHz pulse amplifier and a current sensing circuit. Due to the high gain and bandwidth of the device a single photon yields an output pulse with an average amplitude up to 300 mV and a pulse width of 1.5 ns. Therefore, noise pickup or crosstalk of start and stop signals in time-correlated single photon counting (TCSPC) are reduced and the PMH-100 yields an excellent time resolution, a high count efficiency and a low differential nonlinearity. Overload conditions are detected by sensing the PMT output current and indicated by a LED.



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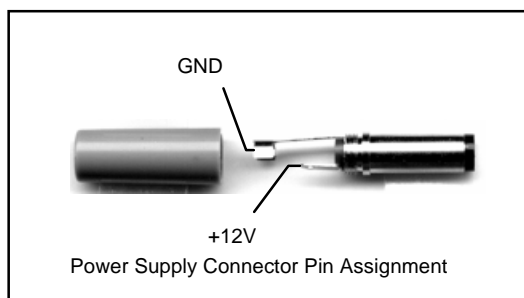
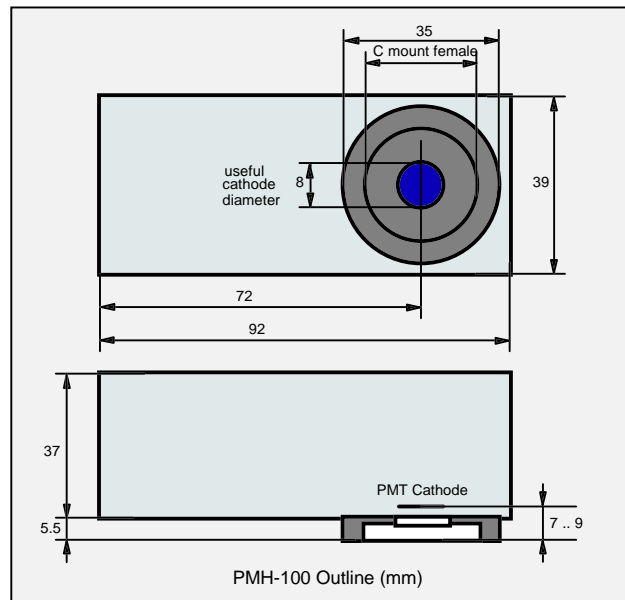
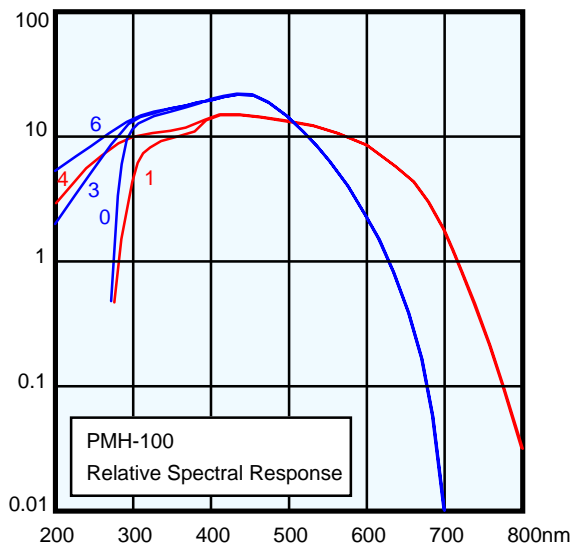
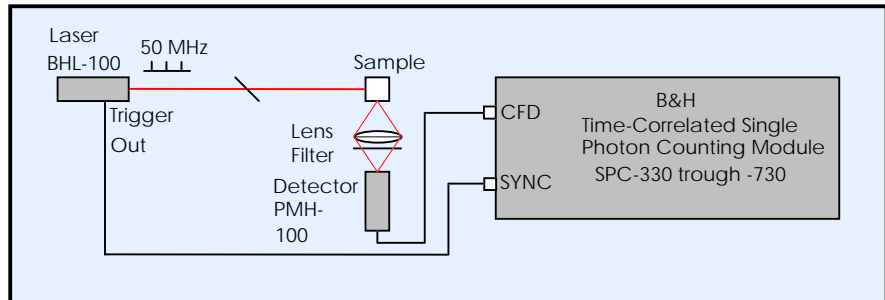

intelligent
measurement
and
control systems

PMH-100

	PMH-100-3	PMH-100-6	PMH-100-0	PMH-100-4	PMH-100-1
Transit Time Spread (FWHM, typ. value)			180 ps		
Wavelength Range (nm)	185 to 650	185 to 650	300 to 650	185 to 820	300 to 820
Dark Counts (20°C, typ value)	80	80	80	400	400
Detector Area Diameter			8 mm		
Single Electron Response Width (FWHM, typ. value)			1.5 ns		
Single Electron Response Amplitude (average)			300 mV		
Output Polarity			negative		
Count Rate (Continuous)			> 5 MHz		
Count Rate (Peak, < 100 ns)			> 100 MHz		
Overload Indicator			LED		
Output Connector			SMA		
Output Impedance			50 Ω		
Power Supply			+ 12 V, 100 mA		
Dimensions			92 mm x 38 mm x 31 mm		
Optical Connection			C-Mount female		

Simple fluorescence lifetime measurement:

The arrangement uses a diode laser (BHL-100), the PMH-100 detector module and the SPC-330 time correlated single photon counting module (please see individual data sheets). The instrument response is <180 ps FWHM. Fluorescence lifetimes down to 20 ps can be determined by deconvolution.



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