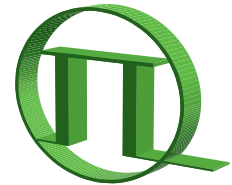


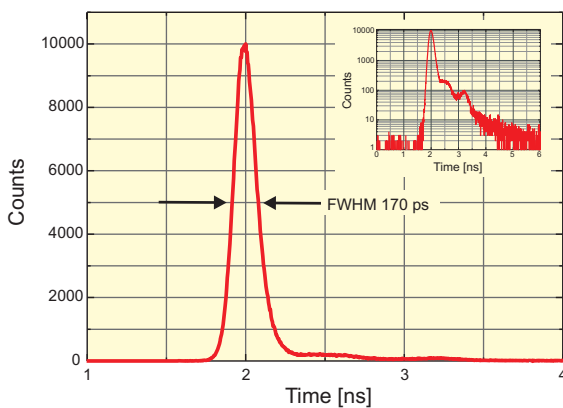
# PMA 165/182/185/192



PICOQUANT  
Unternehmen für optoelektronische  
Forschung und Entwicklung

## Photomultiplier Detector Assembly

<http://www.picoquant.com>



- Instrument response <200 ps (FWHM)
- Internal GHz pre-amplifier & shutter
- Optional thermo-electric cooling
- Simple 12 V DC power supply, no HV supply required
- Spectral ranges from 185 to 900 nm
- RF and magnetic shielding with gold plated iron or nickel coated aluminum housing



## Applications

- Steady state and time-resolved fluorescence and luminescence spectroscopy
- Ultra sensitive analysis
- Fluorescence microscopy
- General purpose photon counting and low light level detection

# Photomultiplier Detector Assembly

The PMA detector is a single photon sensitive, fully integrated, fast time response and low noise photon sensor from PicoQuant. The PMA integrates a fast photomultiplier tube (PMT), a high voltage power supply and pre-amplifier. For selected models thermo-electric cooling and automatic overload protection is available as an option.

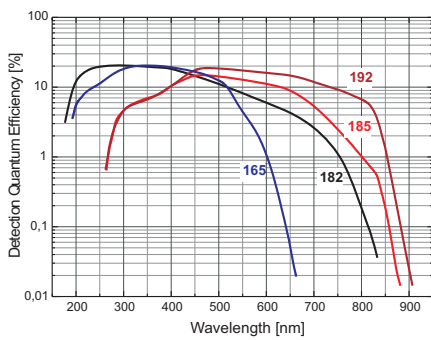
These devices are built in a gold plated iron or nickel coated aluminum housing to achieve high level of RF and magnetic shielding and protection against the interference with other devices. The built in pre-amplifier is specially targeted at timing sensitive applications such as Time-Correlated Single Photon Counting (TCSPC). The PMA detector series is available in a positive or negative polarity output to fit various timing electronics.

Various photocathodes can be incorporated into the PMA to meet user's needs. Four different cathode versions are available. A blue sensitive, low dark count version covers the spectral range from 185 to 650 nm. The standard unit is sensitive in the range from 185 to 820 nm. Extended red-sensitive cathodes cover the 300 to 850 nm and the 300 to 900 nm range. A thermo-electrically cooled housing is available to reduce the dark count rate (recommended for red sensitive versions).

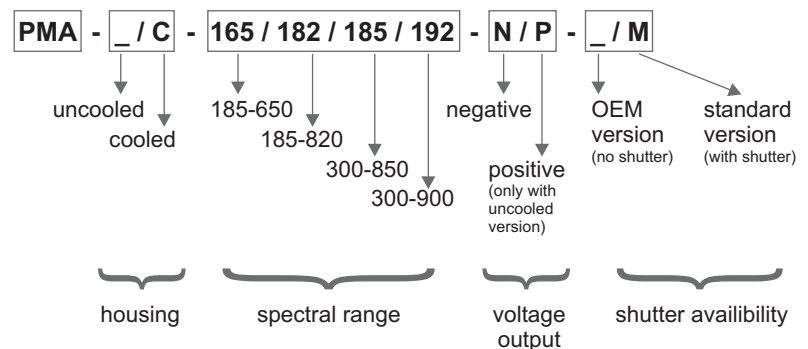
The housing is available in three different versions. The OEM design contains no safety shutter. Standard PMA-M features a security shutter, which can be interlocked with e.g. a sample chamber lid. Cooled versions (PMA-C-Series) incorporate in addition an automatic overload detection function that closes the shutter in case of overillumination.

Signal output for all models is a standard 50 Ohms SMA connector. The module only needs a 12 V DC supply line, which is delivered already with the PMA unit.

## Spectral response



## Naming



## Specifications

Electrical Parameters	PMA 165	PMA 182	PMA 185	PMA 192
Wavelength range	185 - 650 nm	185 - 820 nm	300 - 850 nm	300 - 900 nm
Dark counts* (uncooled)	<50 cps	<900 cps	<2000 cps	<6000 cps
Dark counts* (cooled)	---	<50 cps	<300 cps	<900 cps
Transit time spread (FWHM, typ. value)		200 ps		
Recommended max. count rate		5 MHz		
Single electron response width		1.5 ns		
Pulse rise / fall time		750 ps		
<b>Signal Output</b>				
Connector	SMA female			
Impedance	50 Ohms			
Polarity	negative or positive			
<b>Power Supply</b>				
Input	12 V DC			
Max. current consumption (uncooled)	200 mA			
Max. current consumption (cooled)	450 mA			
<b>Dimensions</b>				
	<b>OEM</b>		<b>-M version</b>	
Uncooled (w × d × h)	134 × 84 × 34 mm		72 × 84 × 83 mm	
Cooled (w × d × h)	---		120 × 84 × 110 mm	
Detector area diameter	8 mm			

\* typ. value, at 20°C ambient temperature

Please check our website for latest changes of specs.

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