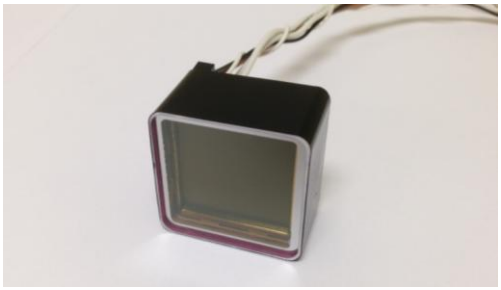
Photon Detector

XPM85112

10µm MCP-PMT
25 mm Square, 4x4 Anode
- Superior Magnetic Field Immunity
- Enhanced Timing Performance

miniPLANACON®



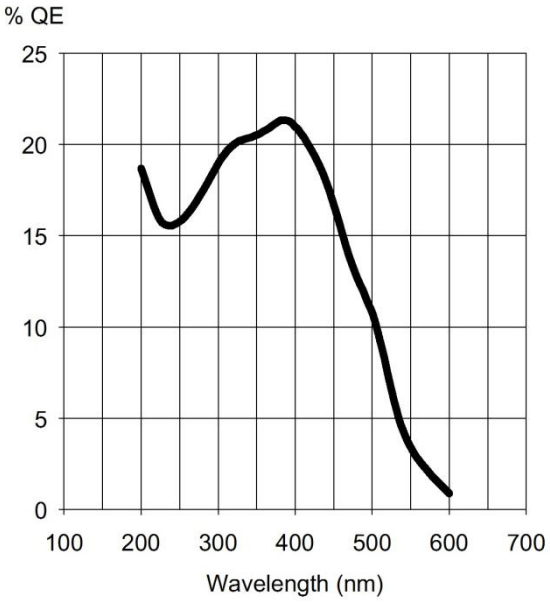
Applications

- ✓ Specialized Medical Imaging
- ✓ Cherenkov – RICH, TOF, TOP, DIRC
- ✓ High Energy Physics Detectors
- ✓ Homeland Security

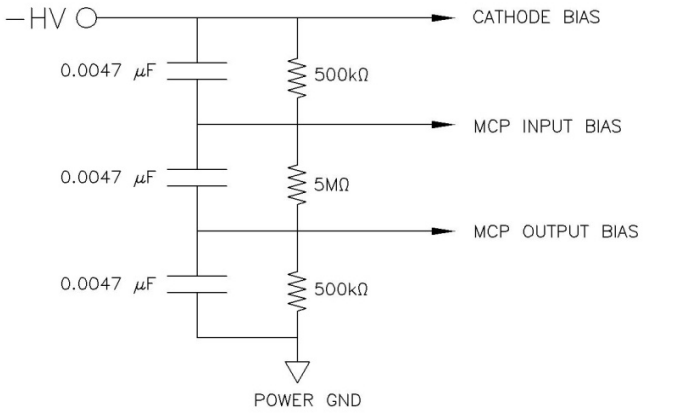
Description	
Window Photocathode Multiplier structure	Synthetic Fused Silica Bialkali MCP chevron (2), 10 µm pore, 60:1 L:D ratio
Anode structure	4×4 array, 5.8 / 6.4 mm (size / pitch)
Active area	25×25 mm
Package Dimensions	32mm x 32mm x 24mm

Photocathode characteristics	Min	Typ	Max	Unit
Spectral range: Peak Quantum Efficiency at 380 nm*	200 18	 22	650	nm %
Operating Characteristics	**Min**	**Typ**	**Max**	**Unit**
Overall Voltage for 10^5 Gain *		FIG	2800	V
Total anode dark current @ 10^5 gain *		< 1	10	nA
Spatial Uniformity		< 1.5:1	2:1	
Rise time**		0.5		ns
Pulse width**		0.7		ns
Transit time spread (σ_{tts})**		< 35	50	ps
Maximum Magnetic Field Operation		2		T

Typical spectral response

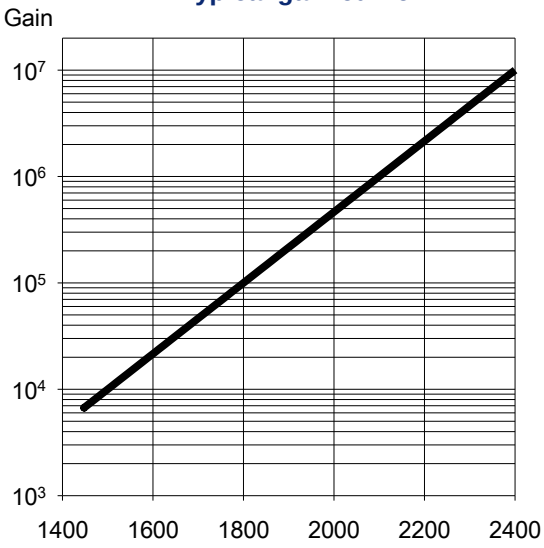


Recommended Voltage Divider (not included)



CAUTION: POWER GROUND CONNECTION AND UNUSED ANODES MUST BE CONNECTED TO GROUND FOR SAFETY AND PROPER TUBE OPERATION

Typical gain curve



** Characteristic measured and recorded on the test ticket of each tube*
*** Characteristic for single photoelectrons at 405 nm.*

PHOTONIS

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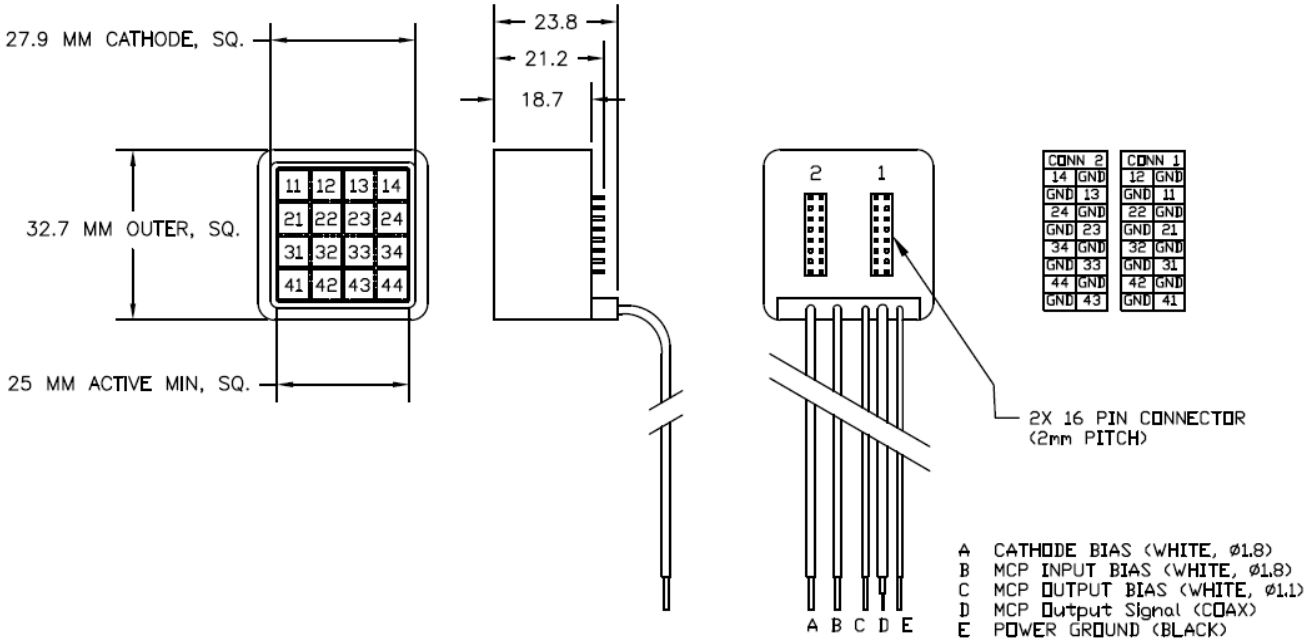
Rev01-2014

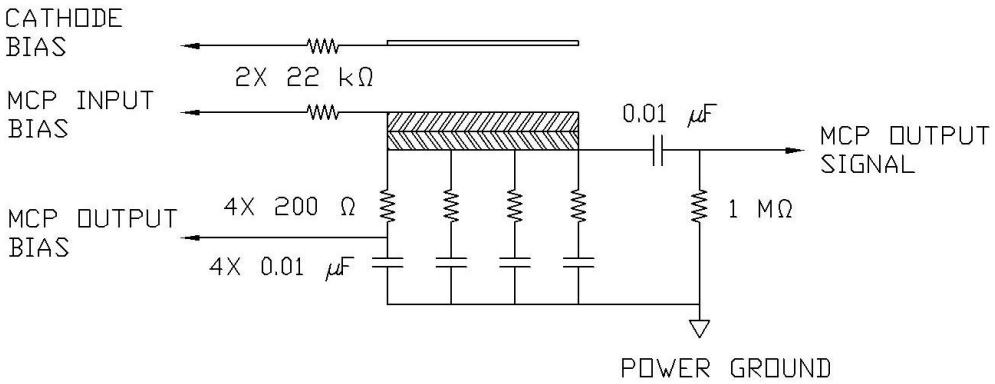
Photon Detector XPM85112

Outline (dimensions in mm)

XPM85112/A1



Internal Connection Schematic – XPM85112/A1 *



Limiting values	Min	Max	Unit
Cathode to MCP_{in} voltage		500	V
MCP_{in} to MCP_{out} voltage		2400	V
MCP_{out} to Anode voltage		500	V
Overall HV when using recommended voltage divider		2800	V
Total anode current under uniform illumination		2	µA
Ambient temperature:			
Operating Temperature	0	+50	°C
Storage Temperature (for extended periods)	-15	+50	°C

* Custom or unfurnished external connections are available upon request.
** Warning: Continuous operation at maximum ratings may result in shorter product life or unreliable performance.

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