

## 320-1100nm Silicon-based Amplified Photodetector, Active area $\Phi 9.8\text{mm}$



- **Product Description**

IdealPhotonics' silicon-based amplified photodetector covers a wavelength range from 190nm to 1100nm. It features 8 adjustable gain levels, enabling quantitative photoconversion with a wide dynamic range. It is suitable for various optoelectronic development scenarios, delivering excellent performance at a high cost-performance ratio. The device is widely used in UV and visible light measurements, with full technical support provided.



- **Product features**

Wavelength range of 190nm to 1100nm, ideal for UV and visible light measurements、 Amplified detector with 8 adjustable gain levels for quantitative photoconversion、 Wide dynamic range, suitable for diverse optoelectronic applications、 Excellent performance, cost-effective, with comprehensive technical support、 Customization options available

- **Part Number**

MP-PD-M-S-11-AA3D98

- **Application area**

UV and visible light measurements

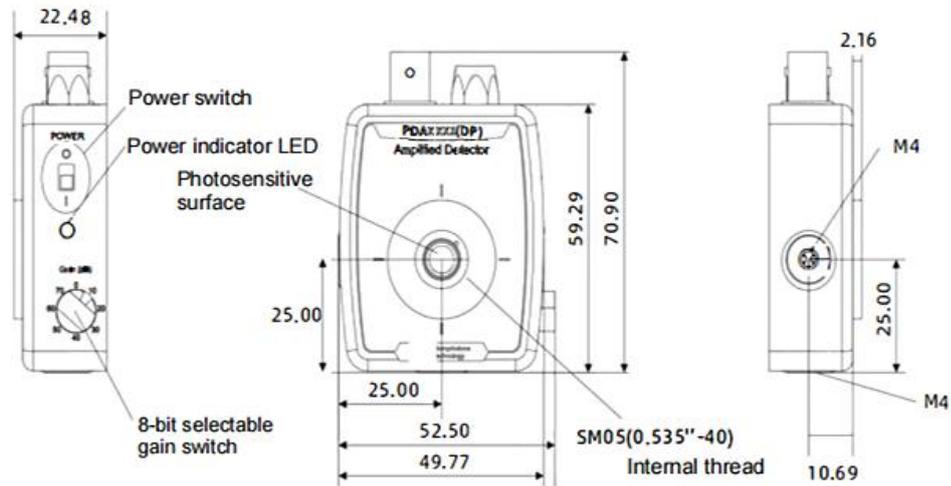
- **Core parameters**

Wavelength	Active Area	Bandwidth
320-1100nm	Φ9.8mm	11MHz



## ● Dimension Drawing

Dimension



## ● General Parameters

### General Parameters

Parameters	Value			
Wavelength Range	350-1100nm	190-1100nm	320-1100nm	190-1100nm
Active area	3.6mm × 3.6mm		Φ9.8mm	
Response Time Constant	10ns	0.5us	35ns	3us

<b>Bandwidth Range</b>	DC~12MHz		DC~11MHz	
<b>Gain Range</b>	Hi-Z Load: 0.51kV/A~4.75MV/A; 50Ω Load: 0.75kV/A~2.38MV/A			
<b>Signal Amplitude</b>	Hi-Z Load: 0 ~10V; 50Ω Load: 0V~5V			
<b>Gain Adjustment Method</b>	Rotary switch adjustment: 0~70dB, 10dB per step, 8 steps. Bandwidth inversely proportional to gain.			
<b>Sensitive Surface Depth</b>	0.13" (3.3 mm)			
<b>Detector Weight</b>	0.10kg			
<b>Operating Temperature</b>	10-40°C			
<b>Storage Temperature</b>	-20-70°C			
<b>Dimensions</b>	2.79" X 2.07" X 0.89" (70.9 mm X 52.5 mm X 22.5 mm)			
<b>NEP</b>	3.25~75.7 p W/Hz <sup>1/2</sup>	2.12~69.7p W /Hz <sup>1/2</sup>	2.67~71.7p W /Hz <sup>1/2</sup>	1.33~45.1pW/H z <sup>1/2</sup>



Power Supply Interface	Power Switch	Signal Interface	Gain Adjustment	Mounting Interface	Optical Interface
LUMBERG RSM V3 FE MALE	Slide Switch With LED Indicator	BNC Female Socket	8-Step Rotary Knob	M4 X 2	SM1 X 1 SM0.5 X 1

### 8-Stage Quantitative Adjustable Gain Parameters:

0dB		10dB		20dB		30dB	
Gain (Hi-Z)	1.51 $\times 10^3 \text{V/A}$	Gain (Hi-Z)	4.75 $\times 10^3 \text{V/A}$	Gain (Hi-Z)	1.5 $\times 10^4 \text{V/A}$	Gain (Hi-Z)	4.75 $\times 10^4 \text{V/A}$
Gain (50 $\Omega$ )	0.75 $\times$ $10^3 \text{V/A}$	Gain (50 $\Omega$ )	2.38 $\times$ $10^3 \text{V/A}$	Gain (50 $\Omega$ )	0.75 $\times 10^4 \text{V/A}$	Gain (50 $\Omega$ )	2.38 $\times$ $10^4 \text{V/A}$

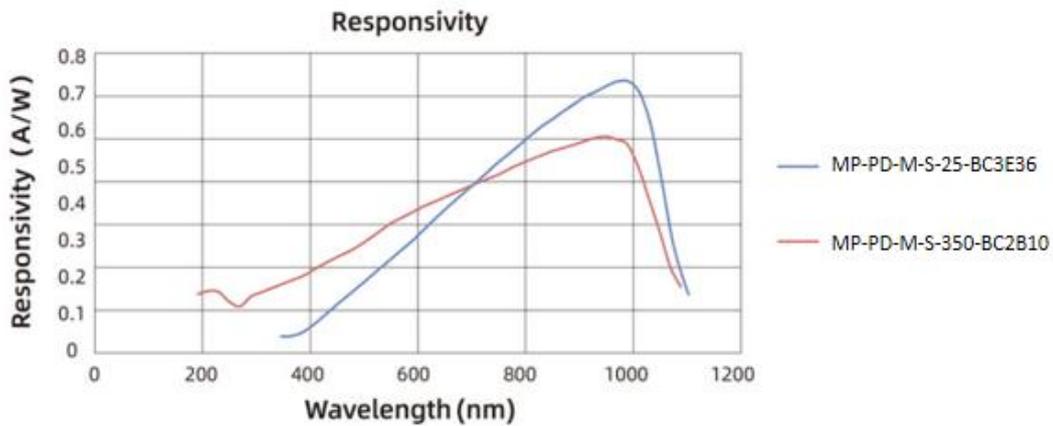


Bandwidth (BW)	12MHz	Bandwidth (BW)	1.6MHz	Bandwidth (BW)	1MHz	Bandwidth (BW)	260kHz
Noise (RMS)	258uV	Noise (RMS)	192uV	Noise (RMS)	207uV	Noise (RMS)	211uV
40dB		50dB		60dB		70dB	
Gain (Hi-Z)	1.51 × 10 <sup>5</sup> V/A	Gain (Hi-Z)	4.75 × 10 <sup>5</sup> V/A	Gain (Hi-Z)	1.5 × 10 <sup>6</sup> V/A	Gain (Hi-Z)	4.75 × 10 <sup>6</sup> V/A
	A		/A		A		V/A
Gain (50 Ω)	0.75 × 10 <sup>5</sup> V/A	Gain (50 Ω)	2.38 × 10 <sup>5</sup> V/A	Gain (50 Ω)	0.75 × 10 <sup>6</sup> V/A	Gain (50 Ω)	2.38 × 10 <sup>6</sup> V/A
Bandwidth (BW)	90MHz	Bandwidth (BW)	28MHz	Bandwidth (BW)	9kHz	Bandwidth (BW)	3kHz
Noise (RMS)	214uV	Noise (RMS)	234uV	Noise (RMS)	277uV	Noise (RMS)	388uV



Signal	$\pm 8\text{mV(Typ.)}$ , $\pm 12\text{mV(Max)}$
Offset	

### SI Response Curve:



### Attachment 1: Optional Configuration Table

<p>Silicon-Based</p> <p>Amplified</p> <p>Photodetector</p> <p>r</p>	<p>Optional Configuration</p>
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Product Name	Material	Type	Features	Wavelength Range Photodetector Size	Reserved Optional Configurations
Photodetector	Si Silicon	Amplified	Adjustable Gain	190-1100nm , 3.6 × 3.6mm	
				190-1100nm, Φ 9.8mm	
				320-1100nm, Φ 9.8mm	
				350-1100nm , 3.6 × 3.6mm	

## Attachment 2: Model Correspondence Table

Model	Specs
MP-PD-M-S-12-AA1A36	<p>190-1100nm Silicon-Based Amplified Photodetector, Active area 3.6 × 3.6mm, 0-70dB 8-step Adjustable Gain, Bandwidth DC ~ 12MHz</p>



<b>MP-PD-M-S-11-AA1A98</b>	<b>190-1100nm Silicon-Based Amplified Photodetector, Active area <math>\Phi</math>9.8mm, 0-70dB 8-step Adjustable Gain, Bandwidth DC ~ 11MHz</b>
<b>MP-PD-M-S-11-AA3D98</b>	<b>320-1100nm Silicon-Based Amplified Photodetector, Active area <math>\Phi</math>9.8mm, 0-70dB 8-step Adjustable Gain, Bandwidth DC ~ 11MHz</b>
<b>MP-PD-M-S-12-AA3E36</b>	<b>350-1100nm Silicon-Based Amplified Photodetector, Active area 3.6<math>\times</math>3.6mm, 0-70dB 8-step Adjustable Gain, Bandwidth DC ~ 12MHz</b>