

# InGaAs Photodetector

## InGaAs-PDA-Adj-G Photodetector

Optoelectronic devices designed for the near-infrared band (800~1700nm)

- Material and spectrum adaptation
- Amplification type and adjustable gain
- Wide dynamic range and high bandwidth
- High compatibility and ease of use
- Stable and reliable



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## Overview

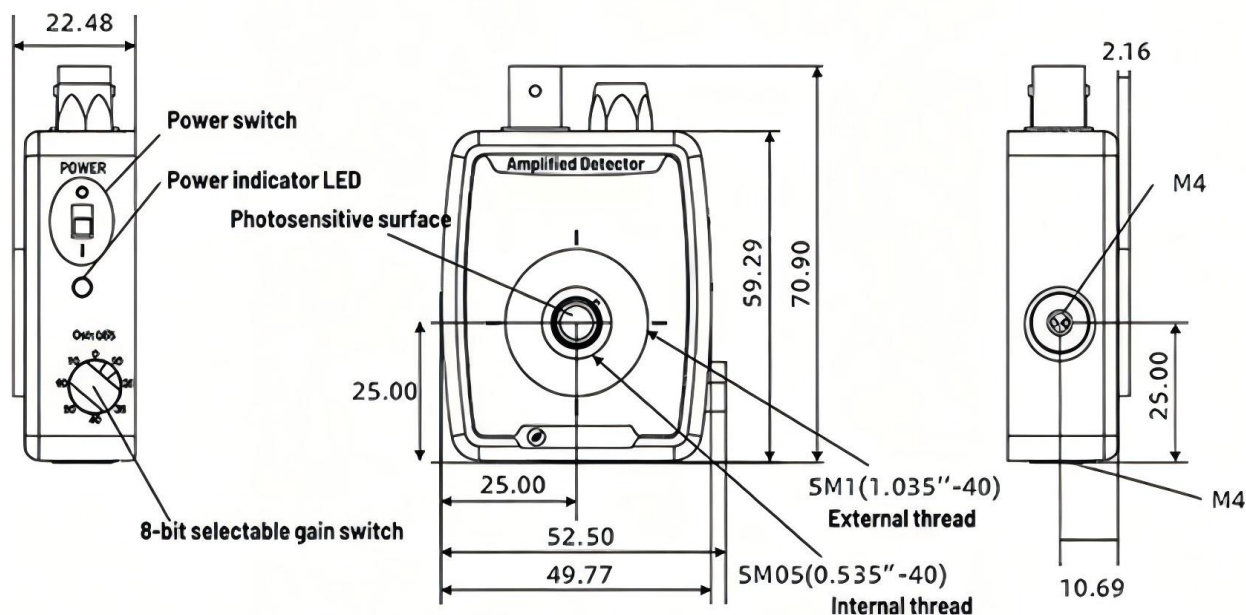
### Introduction:

This product uses an indium gallium arsenide detector with a photosensitive range of 800nm~1700nm, suitable for near-infrared light measurement. It is an amplifying detector with 8 adjustable gain levels, capable of quantitative photoelectric conversion, featuring a wide dynamic range and a wide range of application scenarios. It is seamlessly compatible with the same model of Thorlabs, with more optional target surface sizes, excellent performance and high cost performance, and provides comprehensive technical support and non-standard customization services.

### Features:

- It adopts an indium gallium arsenide detector, covering the measurement of near-infrared light in the 800 - 1700nm range;
- An amplifying detector with 8 adjustable gain levels, enabling quantitative photoelectric conversion;
- It has a wide dynamic range, suitable for various photoelectric development scenarios;
- Seamlessly compatible with the same model of Thorlabs, with optional multiple target surface sizes;
- It has excellent performance and high cost performance, and provides technical support and non-standard customization services.

### Dimension:



## Specifications

### InGaAs-PDA-Adj-G Specifications Sheet

Parameter Item	Parameter Value
Detector Material	Indium Gallium Arsenide (InGaAs)
Spectral Range	800nm~1700nm
Detector Type	Amplified type (with built - in amplifier)
Gain Adjustment	Support adjustable gain (8 gears optional)
Core Function	Quantitative photoelectric conversion

## Adjustable Gain Parameters

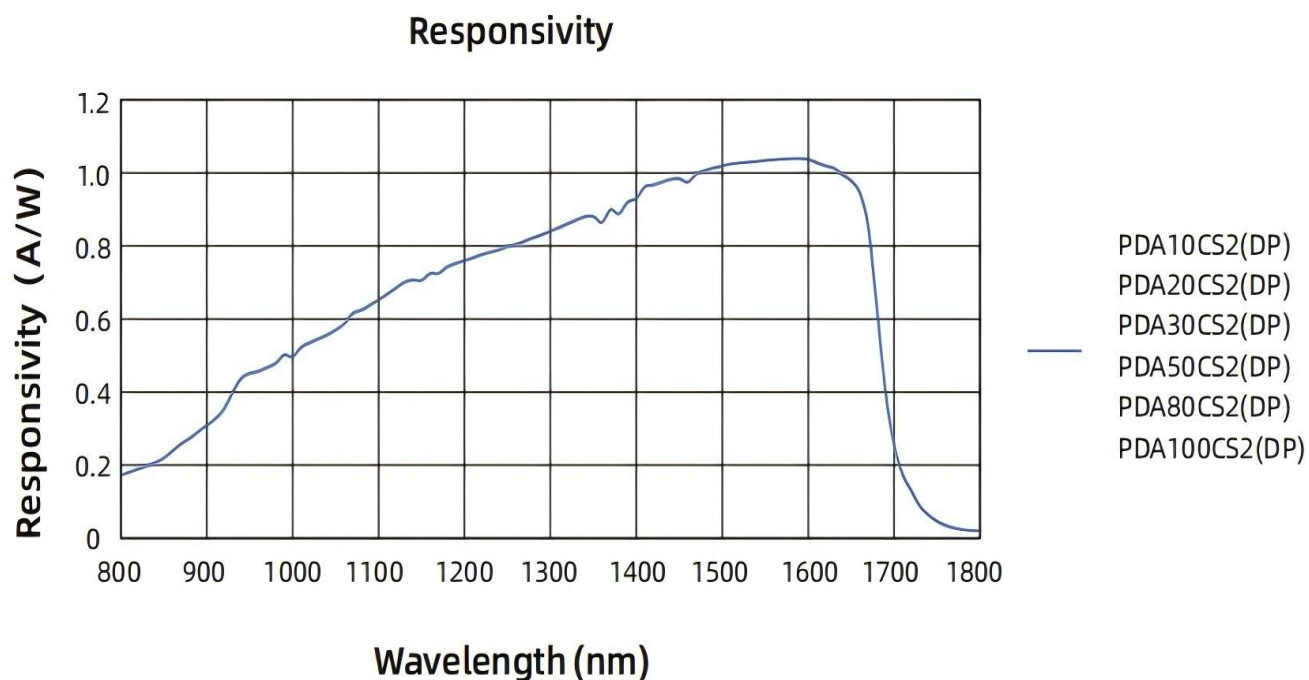
### Detailed Adjustable Gain Specifications Sheet

	0dB	10dB	20dB	30dB
Gain (Hi-Z)	$1.51 \times 10^3$ V/A	$4.75 \times 10^3$ V/A	$1.5 \times 10^4$ V/A	$4.75 \times 10^4$ V/A
Gain (50 $\Omega$ )	$0.75 \times 10^3$ V/A	$2.38 \times 10^3$ V/A	$0.75 \times 10^4$ V/A	$2.38 \times 10^4$ V/A
Bandwidth (BW)	12MHz	1.6MHz	1MHz	260kHz
Noise (RMS)	258 $\mu$ V	192 $\mu$ V	207 $\mu$ V	211 $\mu$ V
	40dB	50dB	60dB	70dB
Gain (Hi-Z)	$1.51 \times 10^5$ V/A	$4.75 \times 10^5$ V/A	$1.5 \times 10^5$ V/A	$4.75 \times 10^6$ V/A
Gain (50 $\Omega$ )	$0.75 \times 10^5$ V/A	$2.38 \times 10^5$ V/A	$0.75 \times 10^6$ V/A	$2.38 \times 10^6$ V/A
Bandwidth (BW)	90kHz	28kHz	9kHz	3kHz
Noise (RMS)	214 $\mu$ V	234 $\mu$ V	277 $\mu$ V	388 $\mu$ V
Signal Offset		$\pm 8$ mV(Typ.) , $\pm 12$ mV(Max)		

## Responsivity

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### Responsivity Diagram of the InGaAs-PDA-Adj-G Series



## Service & Support

We are dedicated to delivering exceptional optoelectronic solutions to every client. From precision manufacturing and secure delivery to full-lifecycle technical support, we are here to ensure a seamless and reliable experience at every step.

### 1. Warranty Policy

#### Quality First, Worry-Free Operation

**Warranty Period:** We offer a **two-year** warranty service for all of our core optoelectronic products, effective from the date of shipment.

**Coverage:** We provide free repair or replacement services for malfunctions caused by material defects or workmanship errors under normal operating conditions.

**Rapid Response:** Upon receiving a warranty claim, we guarantee to initiate the assessment process within **24 hours** to minimize your equipment downtime.

## 2. Technical Support

### Expert Team, Full-Process Guidance

**Technical Consultation:** Our team of senior optical engineers provides **24/7 online support** to assist with installation, commissioning, optical path alignment, and parameter optimization.

**Scheduled Maintenance:** We offer full-lifecycle maintenance recommendations, including firmware upgrades, optical component cleaning guidelines, and precision calibration services.

**Training Services:** We provide customized remote or on-site operational and safety training to ensure your team can operate the equipment efficiently and safely.

## 3. Logistics & Delivery

### Precision Packaging, Global Reach

**Professional Packaging:** Given the fragile nature of optical instruments, we utilize industrial-grade shockproof, anti-static, and moisture-proof vacuum packaging to ensure zero damage during transit.

**Logistics Partners:** We partner with top-tier global logistics providers (**DHL / FedEx / UPS / SF Express**) to offer reliable shipping with real-time tracking.

**Shipping Insurance:** All shipments are fully insured to eliminate logistics risks.

## 4. Compliance & Certification


### Strict Standards, Total Compliance

**Quality Certification:** Our manufacturing process is **ISO 9001 certified**, and our products comply with international standards such as **CE** and **RoHS**.

**Export Compliance:** "Committed to environmental responsibility, all our products comply with **RoHS 2.0** and **REACH** standards, ensuring safety and global compliance."

## Explore Series

Model	Photosensitive Size	NEP (pW/Hz <sup>1/2</sup> )	Response Time	Bandwidth Range
PDA10CS2(DP)	1.0mm	6.1×10 <sup>11</sup> ~ 2.28×10 <sup>12</sup>	10ns	DC ~ 13MHz
PDA20CS2(DP)	2.0mm	4.6×10 <sup>11</sup> ~ 2.24×10 <sup>12</sup>	25ns	DC ~ 11MHz
PDA30CS2(DP)	3.0mm	3.8×10 <sup>11</sup> ~ 2.17×10 <sup>12</sup>	120ns	DC ~ 4MHz
PDA50CS2(DP)	5.0mm	2.2×10 <sup>11</sup> ~ 2.01×10 <sup>12</sup>	300ns	DC ~ 1MHz
PDA80CS2(DP)	8.0mm	1.5×10 <sup>11</sup> ~ 1.57×10 <sup>12</sup>	650ns	DC ~ 100kHz
PDA100CS2(DP)	10.0mm	--	1200ns	DC ~ 10kHz

 Get in touch with our team to explore configurations, request a quote, or learn more about customized solutions tailored to your needs.

Let us help you move science forward—faster and smarter.

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