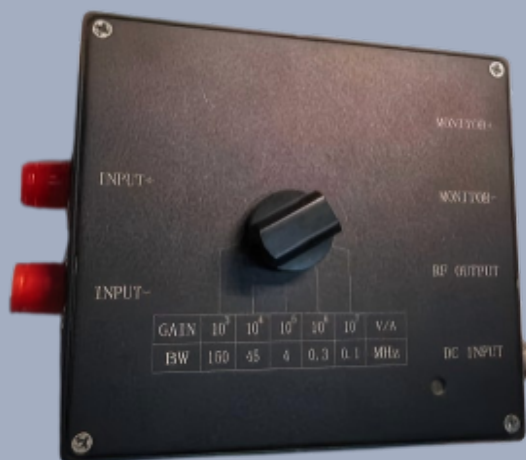


Balanced Photodetector

InGaAs PIN Balance Detector

320 – 1700nm balanced detector

- Dual wideband chips (Si/InGaAs): Covers visible to NIR.
- 5 gain levels ($10^3 - 10^7$ V/A): For weak/strong signals.
- High CMRI: Eliminates background & laser noise.
- High speed: DC – 150MHz bandwidth.
- Ultra-low noise: Pure weak interference signal output.



One Platform Many Possibilities

Contact Us sales@venuslabtech.com

Get a Quote



Get Expert Advice
+658099 5547 (WhatsApp)



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Overview

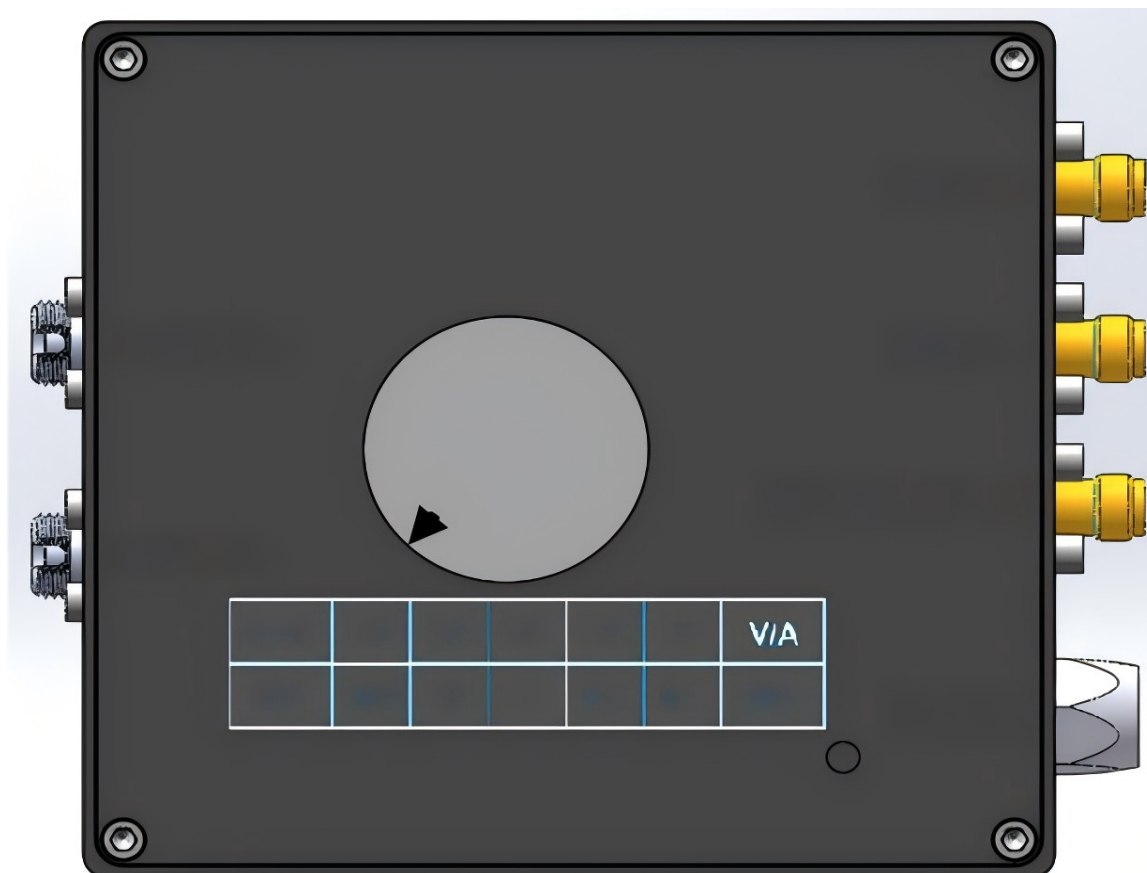
Flexible gain, pure coherence

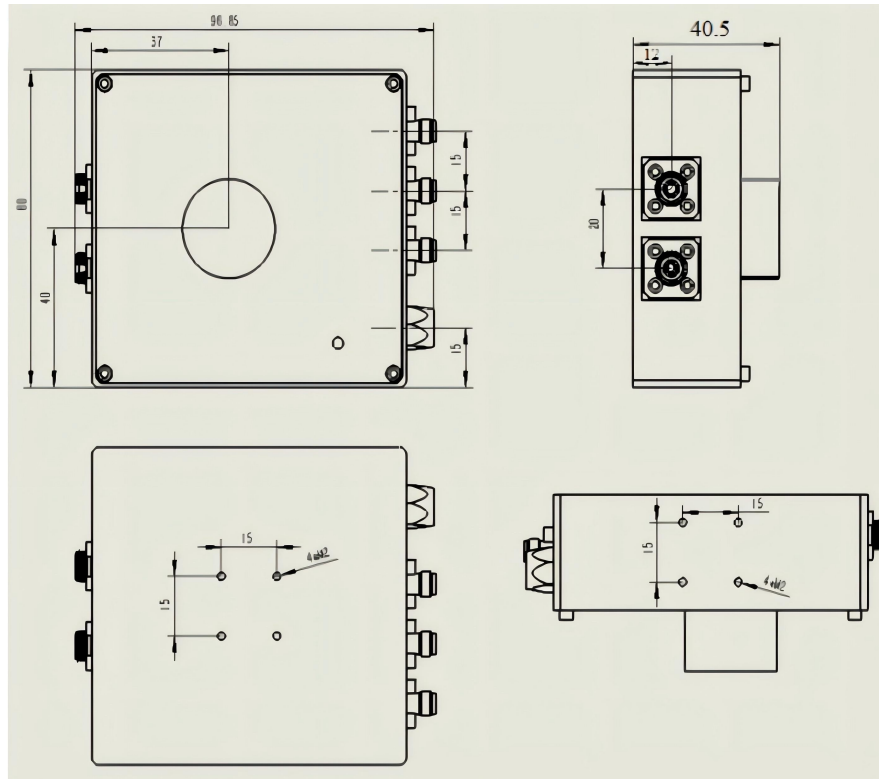
This component integrates a pair of highly matched Si PIN detector chips, an ultra-low noise amplifier circuit, and a low-noise power supply. It covers the 320~1080nm wavelength range with a maximum bandwidth of 150MHz. By utilizing the principle of "physical subtraction" of dual-channel signals to filter out common-mode interference, it serves as the core foundation for obtaining high signal-to-noise ratio interference signals.

Applications

- Doppler lidar: Wind & vibration sensing
- OCT: Biomedical & industrial NDT imaging
- Fiber optic sensing: High-precision distributed demodulation
- Low-light detection: Ultra-weak optical signal capture

Dimension:





Specifications

VenusLab InGaAs PIN Balance Detector Comparison

Detector Material	Si PIN	InGaAs PIN	Material determines applicable wavelength.
Spectral Range	320 ~ 1080 nm	800 ~ 1700 nm	BDS is for VIS; BDI is for NIR (incl. 1550nm).
Active Area Diameter	800 μm	300 μm	BDS has a larger area for higher alignment tolerance.
-3dB Bandwidth	DC - 150 MHz	DC - 150 MHz	Identical high-frequency performance.
Transimpedance Gain	$10^3 / 10^4 / 10^5 / 10^8 / 10^7$ V/A	$10^3 / 10^4 / 10^5 / 10^8 / 10^7$ V/A	Identical 5-gear adjustable gain.
Peak Responsivity	0.53 A/W	1.0 A/W	BDI has higher conversion efficiency in NIR.
Output Responsivity	$0.53 \times 10^3 \sim 10^7$ V/W	$1.0 \times 10^3 \sim 10^7$ V/W	Scales synchronously with gain gears.
Saturation Power	9 mW (@ 820nm)	4.5 mW (@ 1550nm)	BDS has slightly better anti-saturation capability.
NEP (at DC-150MHz)	123 pW/ Hz	67.3 pW/ Hz	BDI has a lower noise floor at high frequencies.

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	Saturation Power	Peak Responsivity	Active Area Diameter
VL-BDS-15	9 mW (@ 820nm)	0.53 A/W	800 μm
VL-BDI-15	4.5 mW (@ 1550nm)	1.0 A/W	300 μm

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

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