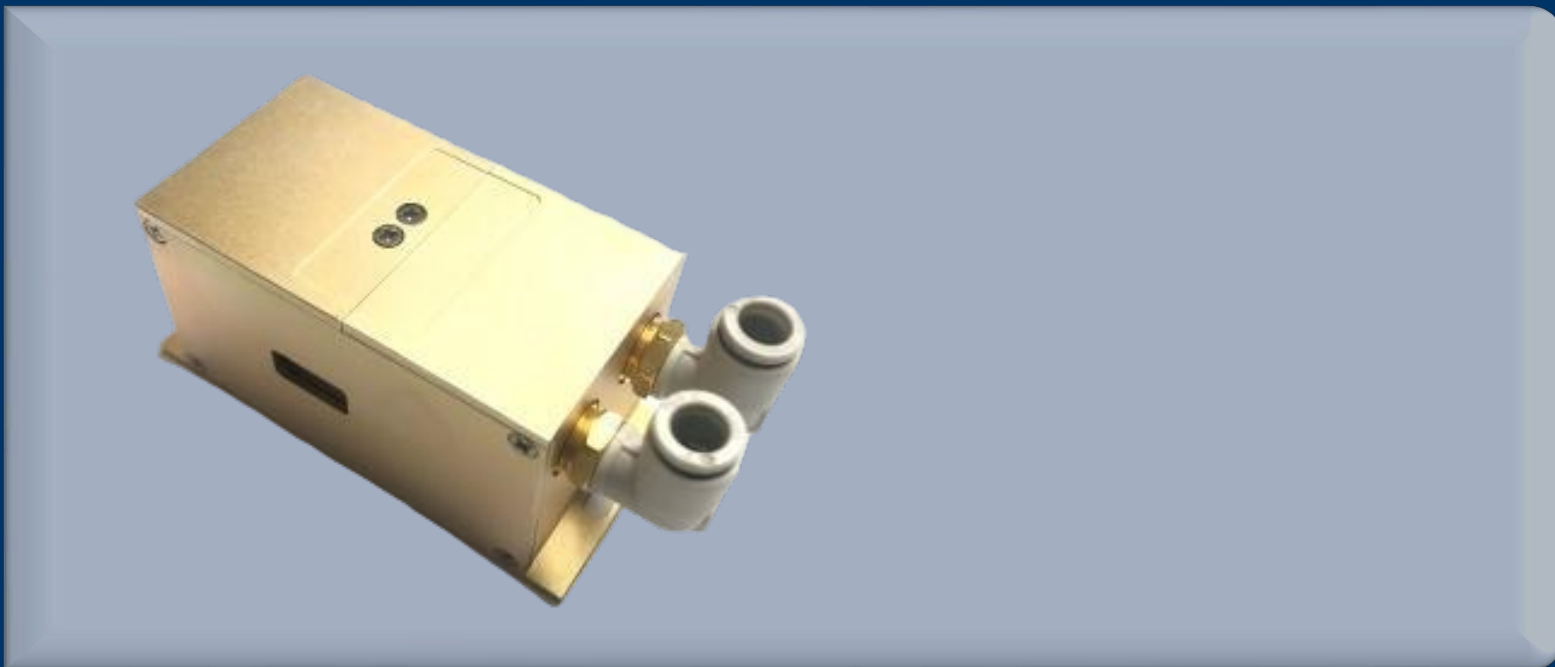


Acousto-Optic Modulator

Mid-IR & Far-IR Acousto-Optic Modulator

Expanding Control Limits into the Infrared

- Broad IR Coverage
- Large Aperture
- High Efficiency
- High Damage Threshold



One Platform Many Possibilities

Contact Us sales@venuslabtech.com

Get a Quote



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+658099 5547 (WhatsApp)



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Overview

Beyond Visible: Mastering Light from 2 μ m to 10.6 μ m

The VL-AOM-MIR Series consists of three dedicated sub-series:

1.2 μ m (2000nm) Series: Designed for 2 μ m solid-state/fiber lasers in medical and remote sensing fields. Offering 40MHz and 80MHz frequency options with conduction or water-cooled packaging, featuring an extremely high damage threshold (>500 MW/cm²).

2.3-5 μ m Mid-IR Series: Targeting defense and gas detection applications. This series maintains high diffraction efficiency of >90% across a broad spectrum, supports up to 10W drive power, and offers 2mm and 4mm clear apertures.

3.10.6 μ m Far-IR Series: The ideal companion for CO₂ lasers. Featuring an industry-leading 8mm ultra-large aperture, it achieves >90% efficiency at 10.6 μ m and supports 60W high RF drive power, perfectly suited for industrial high-power applications.

Key Applications

- **Laser Surgery** : 2 μ m lasers are widely used in urology and tissue ablation; AOMs control pulse energy.
- **Atmospheric Sensing** : Mid-IR (3-5 μ m) modulators for LIDAR detection of greenhouse gases.
- **PCB Processing** : CO₂ lasers (10.6 μ m) for drilling and cutting non-metal materials.
- **Thermal Imaging Testing** : Modulating IR sources to test the response speed of thermal cameras.

Qualification

General Technical Specifications

Technical Parameter	Specification Data
Interaction Material	Germanium (Ge), Quartz, or Special Crystal (Wave. Dependent)
Static Transmission	99.2% (2 μ m); 90% (Mid/Far IR)
Extinction Ratio	> 1000:1
Input Impedance	50 (Nominal)
VSWR	< 1.3:1
RF Connector	SMA-Female (Standard)
Cooling Method	Conduction or Water Cooling (Model Dependent)

Selection Chart

Series A: 2 μ m (2000nm) Modulators

Model	Wave (nm)	Center Freq (MHz)	Aperture (mm)	DE (%)	Power (W)	Cooling	Package
VL-AOM-41-2000	2000	40.68	2.0	80	<40	Water	QB
VL-AOM-80-2000	2000	80	1.0	65	<25	Conduct	QC

Series B: 3-5 μ m Mid-IR Modulators

Model	Wave (nm)	Center Freq (MHz)	Aperture (mm)	DE (%)	Power (W)	Cooling	Package
VL-AOM-68-4000	3000-5000	68	4.0	90	<10	Water	TI
VL-AOM-80-4000	3000-5000	80	2.0	-	5	Conduct	TH

Series C: 10.6 μ m Far-IR Modulators

Model	Wave (nm)	Center Freq (MHz)	Aperture (mm)	DE (%)	Power (W)	Cooling	Package
VL-AOM-41-10600	9000-11000	40.68	8.0	>90	<60	Water	TI

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	Center Freq (MHz)	Cooling	Power (W)	DE (%)	Wave (nm)	Package
VL-AOM-41-10600	40.68	Water	<60	>90	9000-11000	TI
VL-AOM-41-2000	40.68	Water	<40	80	2000	QB

 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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