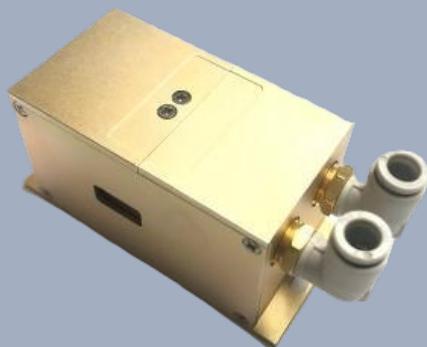


# Acousto-Optic Modulator

## 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](mailto:sales@venuslabtech.com)

Get a Quote



Get Expert Advice  
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## Overview

**Beyond Visible: Mastering Light from 2µm to 10.6µm**

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

**1.2µm (2000nm) Series:** Designed for 2µm 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/cm<sup>2</sup>).

**2.3-5µm 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.

**3.10.6µm Far-IR Series:** The ideal companion for CO<sub>2</sub> lasers. Featuring an industry-leading 8mm ultra-large aperture, it achieves >90% efficiency at 10.6µm and supports 60W high RF drive power, perfectly suited for industrial high-power applications.

## Key Applications

- **Laser Surgery :** 2µm lasers are widely used in urology and tissue ablation; AOMs control pulse energy.
- **Atmospheric Sensing :** Mid-IR (3-5µm) modulators for LIDAR detection of greenhouse gases.
- **PCB Processing :** CO<sub>2</sub> lasers (10.6µm) 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% (2µm); 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: 2µm (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: 3-5µm 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: 10.6µm 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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