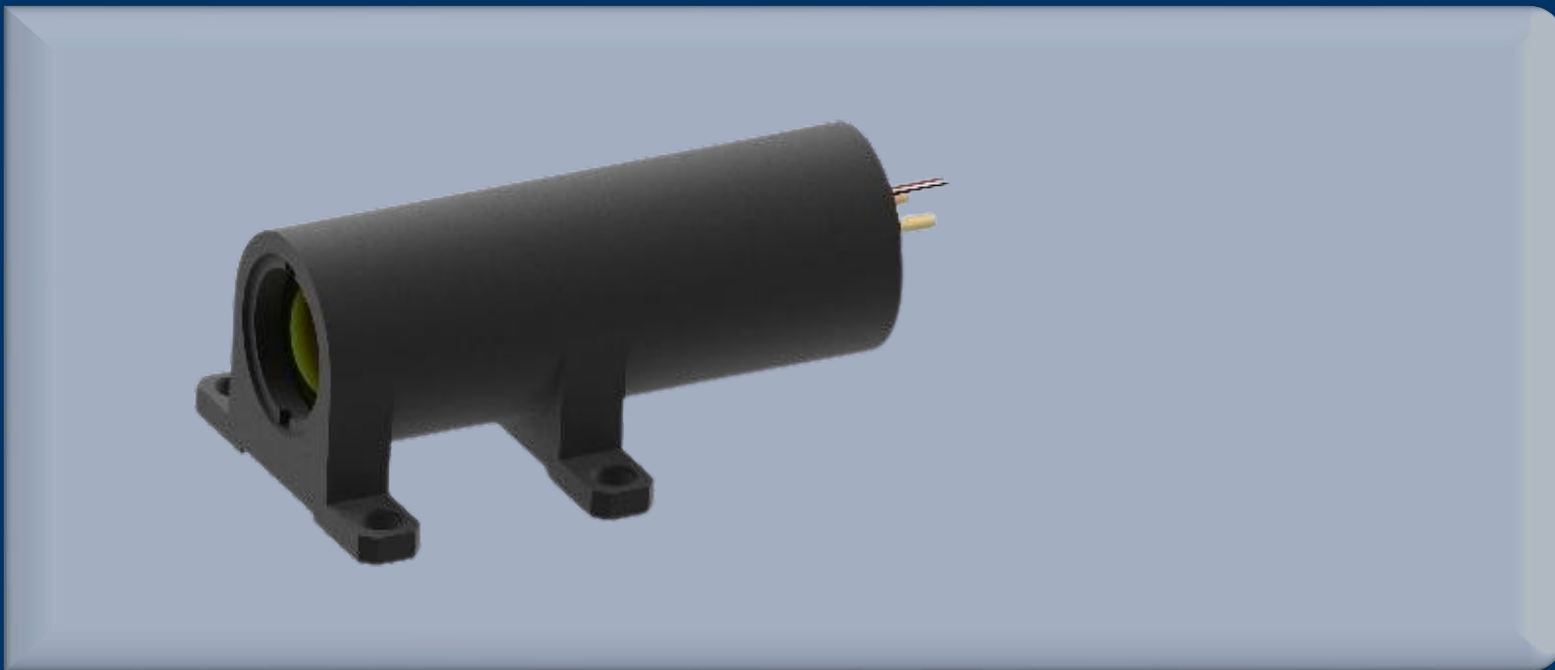


# Erbium Laser

## Erbium Glass Laser Transmitter

Eye-safe laser module for precision ranging and optoelectronic integration

- Absolute Eye-Safety
- Ultra-Lightweight & Compact
- Superior Beam Quality
- Versatile Frequency Options
- Extreme Environmental Robustness



One Platform Many Possibilities

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## Overview

### Ultra-Compact 1535nm Eye-Safe Laser Core Solutions

The VL-ELT series consists of high-performance solid-state laser transmitter modules meticulously engineered for eye-safe sensing and ranging applications.

By utilizing Erbium-doped glass as the gain medium, this series emits at a precise 1535nm wavelength. This wavelength is situated within the absolute eye-safe spectral region, permitting safe deployment in public sectors and critical tactical scenarios.

### Core Technical Advantages:

- **Ultra-Lightweight & Compact Design:** With module weights as low as 9g to 13g (under 30g for high-frequency models), these units significantly minimize the system payload for UAV gimbals and handheld rangefinders.
- **Superior Optical Performance:** Featuring beam divergence as low as 0.6 mrad and exceptional beam quality ( $M^2$  1.3 ~ 1.5), the series ensures high precision and accuracy for long-distance target measurement.
- **All-Weather Reliability:** Engineered to operate stably across a broad temperature range from -40°C to +65°C, these transmitters are built for dependable mission execution in extreme outdoor environments.
- **High Durability:** Offers a long service life with a proven operational capacity exceeding  $10^7$  pulses.

## Qualification

### Core Technical Specifications

Technical Parameters	Specifications	Remarks
Center Wavelength	1535 ± 5 nm	Absolute Eye-Safe Band
Pulse Width (FWHM)	3 ~ 6 ns	High-precision timing
Beam Quality ( $M^2$ )	1.3 to 1.5	Depending on model
Working Voltage	< 2 V	LD Electrical Parameter
Working Current	4 A - 18 A	Varies by energy level
LD Pulse Width	2.5 ms	0.4 ms for HF models
Operating Temp	-40°C ~ +65°C	Industrial/Military Grade
Storage Temp	-50°C ~ +75°C	Harsh environment endurance
Operational Lifetime	> $10^7$ pulses	High reliability
Net Weight	9g ~ 13g	< 30g for HF models

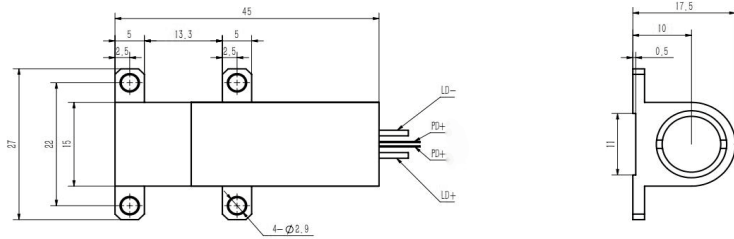
## Selection Chart

### VL-ELT Series Selection Guide

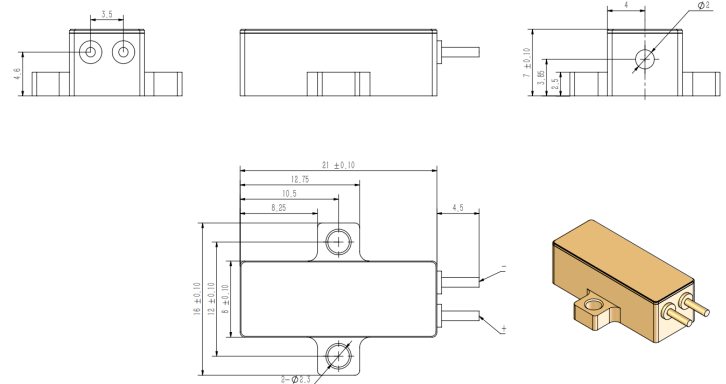
Model	Pulse Energy (μJ)	Frequency (Hz)	Beam Divergency (mrad)	Primary Application Scenarios
VL-ELT-40-HF	40	1000	0.6	High-speed dynamic tracking / LiDAR
VL-ELT-40-LW	40	1000	15	Ultra-lightweight high-frequency detection
VL-ELT-100-LR	100	1~10	0.6	Long-range precision measurement
VL-ELT-100-S	100	1~10	10	Standard handheld rangefinders
VL-ELT-200-S	200	1~10	10	Medium-to-long distance ranging
VL-ELT-300-S	300	1~10	10	High SNR target identification
VL-ELT-400-P	400	1~10	15	Heavy-duty optoelectronic integration
VL-ELT-500-P	500	1~10	15	All-weather / Extreme distance ranging

## Dimensions Diagram

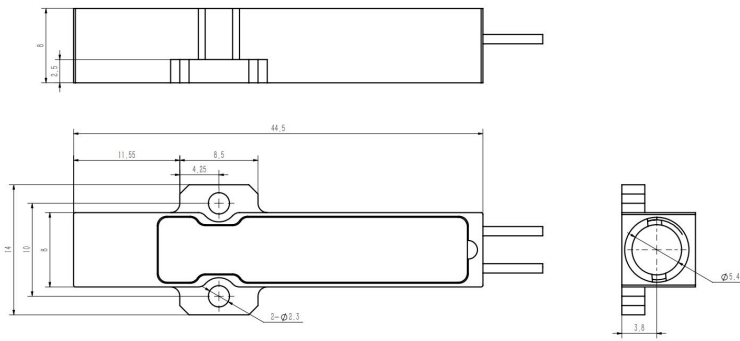
### VL-ELT-40-HF



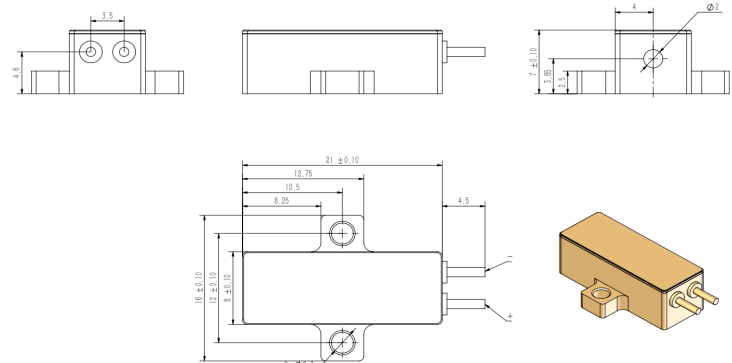
### VL-ELT-40-LW



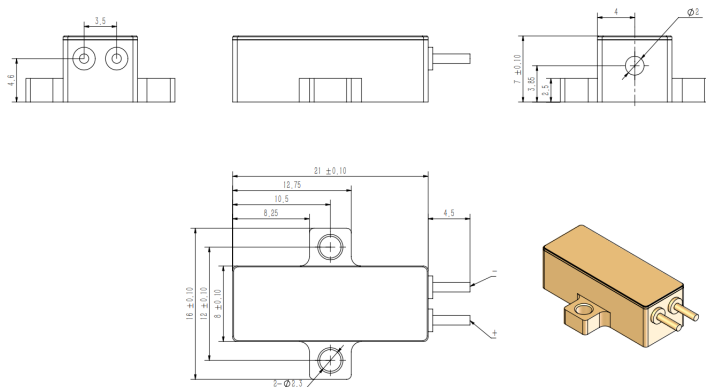
### VL-ELT-100-LR



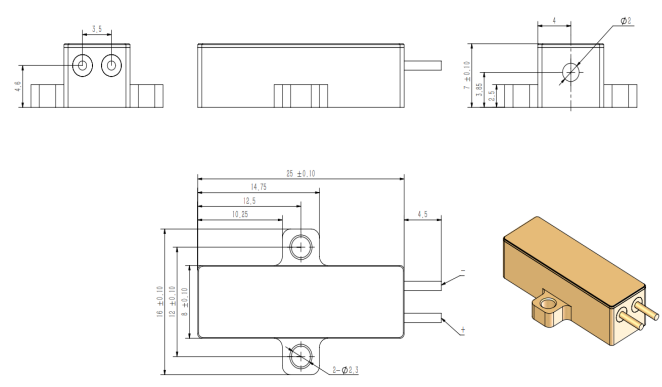
### VL-ELT-100-S



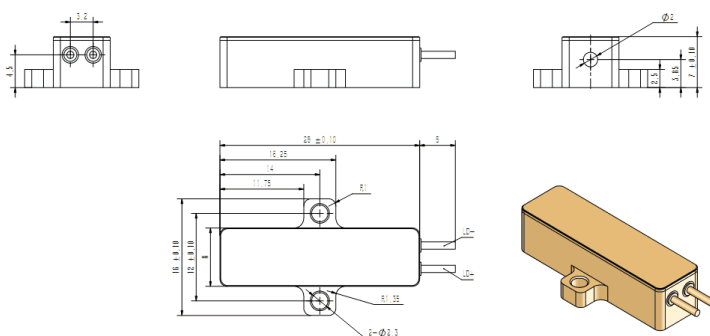
### VL-ELT-200-S



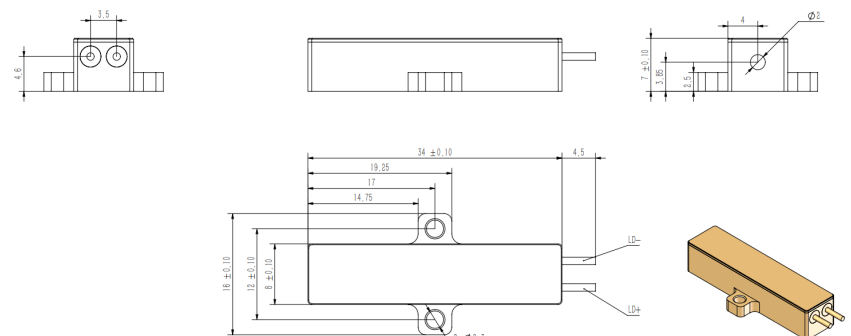
### VL-ELT-300-S



### VL-ELT-400-P



### VL-ELT-500-P



## 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	Frequency (Hz)	Beam Divergency (mrad)	Pulse Energy ( $\mu$ J)
VL-ELT-40-HF	1000	0.6	40
VL-ELT-40-LW	1000	15	40
VL-ELT-100-LR	1~10	0.6	100
VL-ELT-100-S	1~10	10	100
VL-ELT-200-S	1~10	10	200
VL-ELT-300-S	1~10	10	300
VL-ELT-400-S	1~10	15	400
VL-ELT-500-S	1~10	15	500

 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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