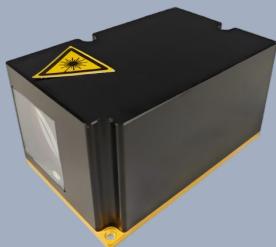


Laser Designator

1064nm Laser Target Designator

A 1064nm solid-state laser system purpose-built for high-precision tactical guidance and long-range target designation

- Dual-Mode Integration
- High Pulse Energy & Long-Range Designation
- Superior Beam Collimation
- Versatile Tactical Coding
- Military-Grade Reliability



One Platform Many Possibilities

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Overview

1064nm Laser Target Designator: The Tactical Core of Long-Range Guidance and Precision Ranging

The 1064nm Laser Target Designator is a high-performance solid-state laser system that integrates laser emission, precision ranging, and tactical coded designation. Operating at a standard 1064nm wavelength, this series is specifically designed to provide target illumination signals for semi-active laser-guided munitions and high-accuracy distance data for fire control systems.

Key Features and Technical Advantages:

- **Dual-Mode Integration:** The system seamlessly combines high-precision laser ranging and tactical target designation capabilities, allowing for flexible mission switching. In designation mode, it maintains a central frequency of 20Hz for consistent target illumination.
- **High Pulse Energy and Precise Beam:** Available in multiple energy configurations ranging from 20mJ to 80mJ. With an ultra-narrow beam divergence of 0.3mrad and minimal beam jitter (0.03mrad), it ensures highly concentrated energy over extreme distances, significantly enhancing guidance precision.
- **Exceptional Operational Range:** For medium-sized tank targets, the series achieves a designation range of up to 8,000 meters and a maximum ranging capability of 12,000 meters.
- **Versatile Tactical Coding:** Fully supports international standard laser coding methods, including Precise Frequency Code, Variable Interval Code, and Pulse Code Modulation (PCM), providing robust anti-jamming capabilities and broad weapon system compatibility.
- **Military-Grade Reliability and Lightweight Design:** Featuring a fully sealed and compact structure, the modules weigh between 500g and 800g. It is engineered to operate reliably in harsh environments from -40°C to +60°C, making it ideal for field operations and airborne gimbal integration.
- **Standardized Communication Interface:** Utilizing RS422 communication and a wide 18-32V power supply range, the series allows for rapid integration with various optoelectronic payloads, UAV systems, and ground fire control terminals.

Qualification

General Technical Specifications

Technical Parameter	Specification & Performance	Notes
Center Wavelength	1064nm ± 5nm	Standard tactical band
Beam Divergence	0.3 mrad	Full angle
Beam Jitter	0.03 mrad	High stability
Pulse Width	15ns ± 5ns	
Designation Frequency	Central Frequency 20Hz	Standard guidance freq.
Ranging Frequency	Single, 1Hz, 5Hz	User selectable
Ranging Accuracy	± 5 m	
Laser Coding Types	Precise Frequency, Variable Interval, PCM Code, etc.	Tactical compatibility
Coding Accuracy	± 2 μs	
Communication Method	RS422	
Power Supply	18V - 32V	Wide voltage input
Operating Temperature	-40°C to +60°C	Military/Industrial grade
Storage Temperature	-55°C to +70°C	Based on series ruggedization
Dimensions (Max)	110mm x 73mm x 60mm	For high-energy models

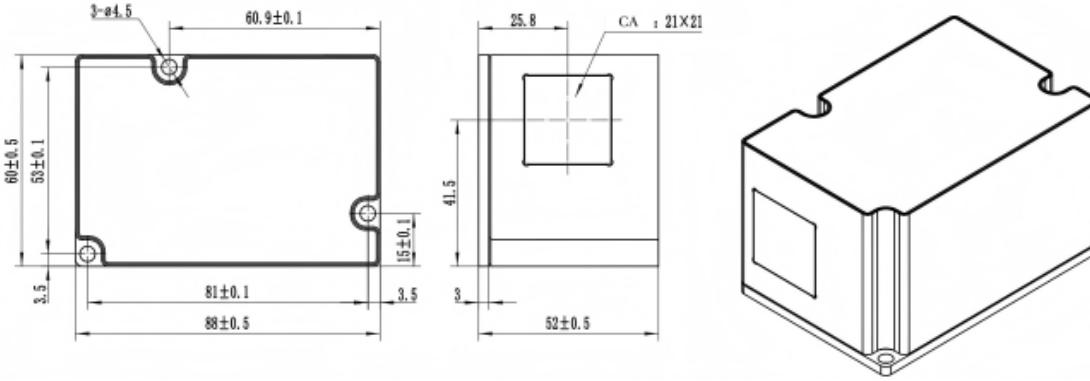
Selection Chart

VL-Astra Series Selection Guide

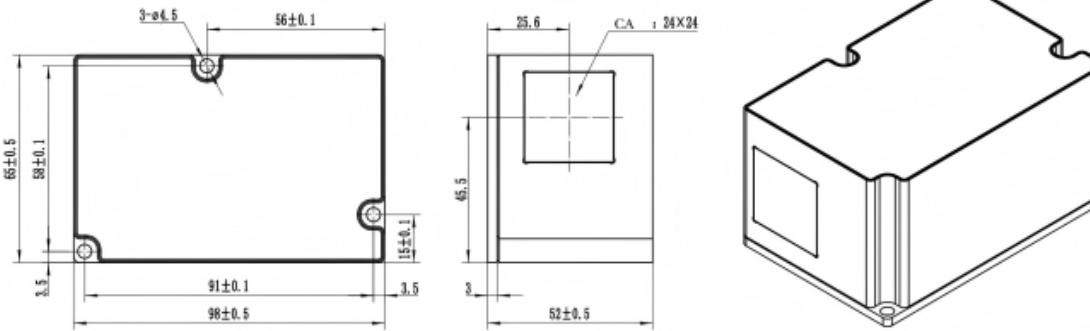
VL Unified Model	Pulse Energy (mJ)	Designation Distance*	Ranging Range*	Net Weight
VL-Astra-20	20	2,000 m	200m - 8,000m	500 g
VL-Astra-40	40	4,000 m	200m - 9,000m	600 g
VL-Astra-60	60	6,000 m	200m - 11,000m	700 g
VL-Astra-80	80	8,000 m	200m - 12,000m	800 g

Dimensions Diagram

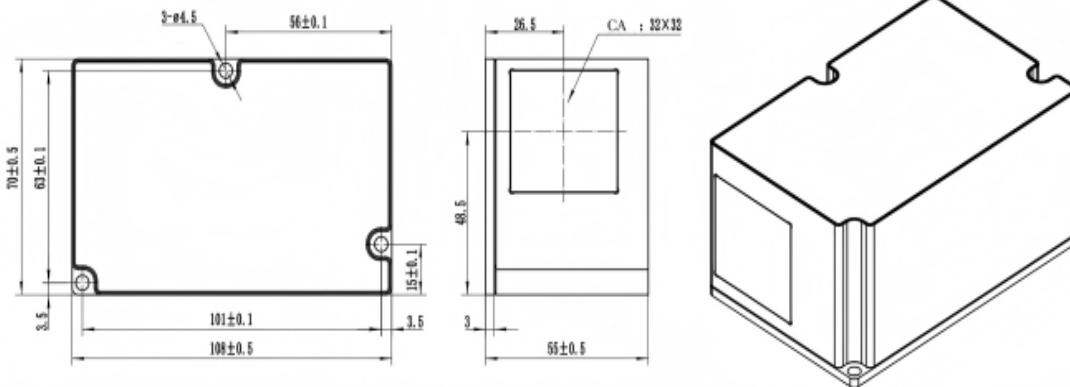
VL-Astra-20



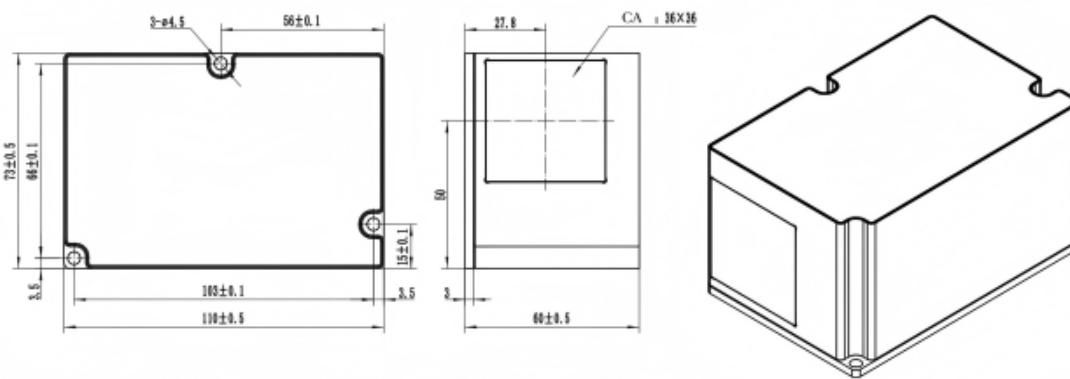
VL-Astra-40



VL-Astra-60



VL-Astra-80



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	Designation Distance	Net Weight	Ranging Range	Pulse Energy (mJ)
VL-Astra-20	2,000 m	500 g	200m - 8,000m	20
VL-Astra-40	4,000 m	600 g	200m - 9,000m	40
VL-Astra-60	6,000 m	700 g	200m - 11,000m	60
VL-Astra-80	8,000 m	800 g	200m - 12,000m	80

 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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