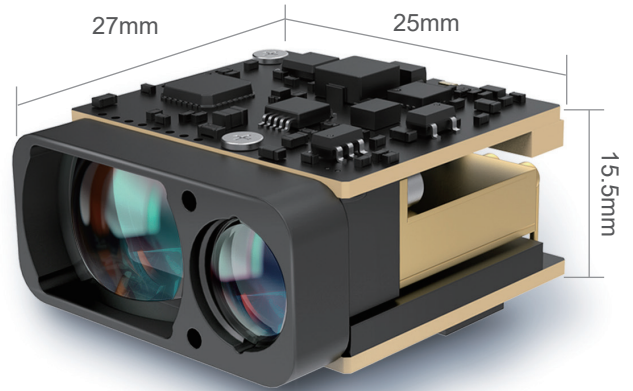


# LM Mini Series

## 3km Miniature Laser Rangefinder Module

• Wavelength 1,535nm • Class 1



### Product Introduction

The new LM Mini series of miniature laser rangefinder modules is developed based on our self-developed 1,535 nm erbium glass laser, and it is a Class 1 eye-safe product. The product has significant advantages in size and weight, supporting a measurement range of 10-4,000m, with a detection range of up to 3,000m for vehicle targets. Compared with the previous generation 1535 nm rangefinder module of the same measuring range, the size has been reduced by 66% and the weight by 56%. While achieving ultimate miniaturization and lightweight design, this product further reduces power consumption and features stable performance and high shock resistance. The module supports functions such as single measurement, continuous measurement, first/last target, and multi-target ranging. It can be widely used in civilian UAVs, outdoor observation, and security applications.

### Product Highlights



#### Ultra-lightweight and Miniature Design Suitable for Space-constrained Scenarios

Ultra-compact design, 27×25×15.5mm mini body, 14g ultra-lightweight, enabling effortless integration into equipment.  
Class I eye-safe certification, compliant with international certification standards



#### Ultra-long-range and Precise Ranging Low Power Consumption for Extended Endurance

10-4,000m ultra-wide measurement range, adaptable to multiple application scenarios  
±1m accuracy across the entire measurement range, with a small beam divergence for precise target acquisition  
Operating power consumption is as low as 0.9W across the full temperature range, minimizing the power load on the host system



#### Stable Performance in Complex Scenarios Developer-Friendly and Easy to Integrate

Wide operating temperature range and shock-resistant design ensure stable performance in harsh environments  
Standard UART (TTL 3.3V) interface, compatible with mainstream systems, plug-and-play  
A GUI software and a full communication protocol command set are provided to support secondary development

## Specifications

Specifications	
Eye Safety Level	Class 1 (IEC 60825-1)
Laser Wavelength	1535±5nm
Laser Divergence Angle	0.6±0.1mrad
Receiving Field of View (FOV)	~7.4mrad
Max. Range (Visibility > 8km)	≥4,000m @60% reflectivity, building target ≥3,000m @30% reflectivity, 2.3×2.3m target ≥1,500m @30% reflectivity, 0.5×1.7m target ≥800m @30% reflectivity, 0.2×0.3m target
Min. Range	10m
Ranging Accuracy	±1m
Measurement Frequency	1 - 10Hz
Accurate Measuring Rate	≥98%
False Alarm Rate	≤1%
Multi-target Detection	Up to 3
Electrical Indicators	
Interface Type	UART(TTL_3.3V)
Power Supply Voltage	DC 3 - 5V
Standby Power Consumption (Full Temp. Range)	≤10mW (Power on pulled low) ≤0.8W (Power on pulled high)
Operating Power Consumption (Full Temp. Range)	5V,≤0.9W@1Hz 5V,≤1.5W@10Hz
Peak Power Consumption	≤3W@5V
Start-up Time	≤350ms (After startup, response time ≤20ms)
Physical Properties	
Weight	14±1g
Dimensions	27×25×15.5mm (L×W×H)
Shock	1200g, 1ms
Vibration	5 - 50 - 5 Hz, 1 octave/min, 2.5g
Environmental Adaptability	
Operating Environment Temperature	-20 - +70 C
Storage Environment Temperature	-25 - +75 C
Reliability	MTBF≥1500h

\*This information is for reference only. Images and technical specifications are subject to change without notice.

## Applications



Civilian UAV Airborne



Engineering Survey



Security Gimbal



Handheld Rangefinder

## Company Profile

Raytron Microelectronics Co., Ltd. is a wholly-owned subsidiary of Raytron Technology Co., Ltd., providing global customers with infrared detectors, core modules, and industry solutions.

Our products are widely used in various fields, including infrared temperature measurement, night vision observation, machine vision, intelligent driving, Commercial Drone, smart industry, security monitoring, Internet of Things, medical epidemic prevention and gas detection.

With the mission of "to create incremental value for customers with technological advancements", we are committed to leaving a name in the history of constantly expanding human perception capabilities.



Official Website



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