

ROX™ μ LRF Series – Eye-Safe Micro-Laser Rangefinders

Features

- Eye-safe: Class-1M, 1535-nm laser transmitter
- Long Range: 3 km
- High Precision: 100-mm accuracy single-shot variance
- High Beam Quality: Diffraction-limited beam, $M^2 < 1.2$
- Unsurpassed Sensitivity: < 0.5 nW NEP
- High Repetition Rate: Up to 10-Hz single-shot
- Long-life Battery: > 200 thousand shots with rechargeable LIPO
- Long Lifetime: > 100 million shots
- Robust: Qualified to IP65

Applications

- Hunting and Sporting
- Survey
- Mapping and Altimetry
- Robotics and Autonomous Navigation
- UAV-Mounted Ranging and Surveillance
- Police and Paramilitary Surveillance

Delivering the highest performance in its class

The ROX μ LRF series of micro-laser rangefinder (μ LRF) is a new class of high-performance, eye-safe laser rangefinder in an extremely compact, lightweight package.

Designed for use by high-performance consumer, commercial and industrial system integrators, the ROX μ LRF, combines low-divergence diffraction-limited laser pulses with Voxel's state-of-the-art APD receiver to achieve the most sensitive, highest performing rangefinder in its size and weight class.

The ROX μ LRF includes:

- **ROX Rx**, a highly sensitive InGaAs APD receiver (Rx).
- **ROX Tx**, a small-form-factor eye-safe diode-pumped solid-state laser transmitter (Tx) operating at 1535 nm, with a beam expander that provides 0.5 mrad of laser divergence with near diffraction-limited beam quality.
- Visible **boresight aiming laser** operating at 650 nm.
- Custom **pulse-processing and time-to-digital circuits**.
- **Micro-USB serial interface** compatible with bluetooth converters.

The waterproof ROX μ LRF series delivers reliable ranging of targets under direct sunlight, at night and in low visibility conditions, including fog, rain and snow. Communication is performed over the bluetooth-compatible micro-USB connector. The ROX μ LRF series comes factory-configured with a variety of operating modes and is easily user-programmed. It is designed for flexible integration with user systems.

Specifications:

General	
Eye Safety	Class 1M
Measurement Range ¹	3 km
Minimum Range	10 m
Range Accuracy	100 mm
Range Resolution	50 mm
Multiple Target Detection	5 returns per shot with 10-m separation
Measurement Rate	10 Hz
LRF Transmitter	
Laser Type	DPSS
Operating Wavelength	1535 nm
Beam Divergence	0.5 mrad
Transmitter Optic Diameter	12 mm
Pulse Energy	100 μ J
Pulse Width (FWHM)	2 ns
Laser Classification	1M (EN 60825-1: 2007)
Lifetime	> 100 million shots
LRF Receiver	
Detector Type	InGaAs APD
Receiver Optic Diameter	15 mm

¹ 2.3-m x 2.3-m target, albedo 0.3, visibility 10 km

Model FVKE-NCBC

Boresight Aiming Laser	
Operating Wavelength	650 nm
Power	5 mW
Eye Safety	Class IIIa
Range: Day / Night	30 m / 450 m
Electrical	
Data Interface	<ul style="list-style-type: none"> • RS232 3.3 V TTL Level • Bluetooth v21.1 (optional)
Power Supply	3.3 V to 12 V (LIPO)
Power Consumption	<ul style="list-style-type: none"> • Standby 80 mW • Max Measure Rate 1.7 W
Mechanical	
Weight	145 g
Dimensions (LxWxH, mm)	95 x 55 x 27
Environmental	
Operating Temperature	-40 to 60 °C
Storage Temperature	-45 to 80 °C
Waterproof	IP65



CAUTION
Class I Invisible Laser
Radiation Present
Avoid long-term viewing of laser.

Dimensions:

