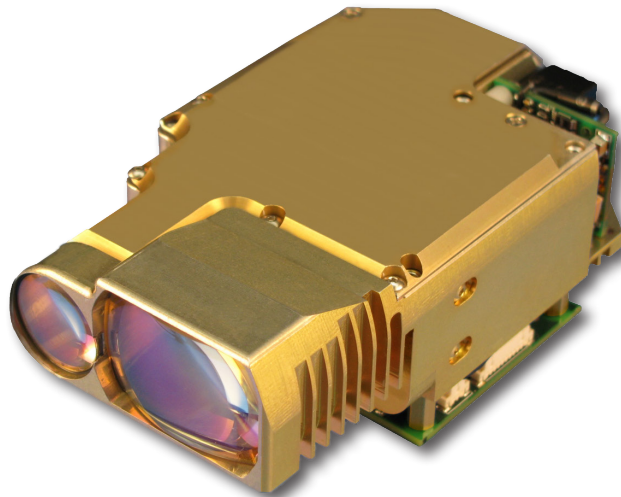


Diode-Pumped Eye-Safe Laser Range Finder

ABOUT L-3 ALST

Part of L-3 Communications, a global leader in defense technologies and services, Advanced Laser Systems Technology (ALST) is an ISO 9001 certified full-service designer and manufacturer of military grade Eye-Safe Laser Range Finder, Laser Designator, and Multi-Function Laser Systems.



PRODUCT OVERVIEW

The Miniature Laser Range Finder (MLRF) is smallest and lightest member of the L-3 ALST Diode-Pumped Eye-Safe Laser Range Finder product family. Weighing less than 470 grams, firing with nominal 5 mJ output energy, optimized beam divergence, and sensitive APD receiver, the MLRF provides even the most demanding users with exceptional performance in a ruggedized, lightweight compact package.

FEATURES

- Up to 20 km ranging capability, 39.9 km range gate
- 5 mJ nominal energy
- Total weight < 470 gm
- Dimensions 5 in. L x 2.7 in. W x 1.9 in. H
- Diode-Pumped Erbium: Glass
- Avalanche Photo Diode Detector (APD)
- Pulse Repetition Frequency ≤ 1 Hz Nominal
- 14 to 32 VDC
- MIL-STD Tested Environment

INVISIBLE LASER RADIATION
CLASS 1 LASER PRODUCT



Use of U.S. DoD visual information does not imply or constitute DoD endorsement.

Diode-Pumped Eye-Safe Laser Range Finder

SYSTEM

Max Range:	See Figure 1
Min Range:	50 m
Boresight Accuracy (relative to nominal emission axis):	$\leq \pm 200 \mu\text{rad}$ at ambient temperature
Boresight Retention over operating temperature (relative to initial factory alignment):	$\leq \pm 150 \mu\text{rad}$ at ambient temperature
MTBF:	11,000 hours (uninhabited airborne cargo environment @ 40 °C - system powered and firing 25% of time) 7,500 hours (composite wheeled environment @ 50 °C - system powered and firing 25 % of time)

LASER

Wavelength:	1535 nm $\pm$ 5
Class:	Class 1 IAW ANSI-Z136.1-2007
Pulse Rate:	≤ 1 Hz Nominal
Laser Shot Life:	> 1,000,000 shots
Beam Divergence:	Note: 1
Energy Output:	Note: 1
Pulse Width:	Note: 1

RECEIVER

Range Resolution:	1 m
Range Accuracy:	50 to 300 m Target 7 m 1 σ 301 to 10,000 m Target Range: 4 m 1 σ
Range Logic:	First / Last
Multi-target discrimination:	≥ 25 m
Detector Type:	Note: 1
Receiver Sensitivity:	Note: 1

MECHANICAL

Weight:	≤ 470 g (1.04 lbs)
Dimensions:	126.5 mm (4.98 in.) X 686.1 mm (2.68 in.) X 49.3 mm (1.94 in.) (see Figure 2)
Environmental Enclosure:	Open frame

ELECTRICAL

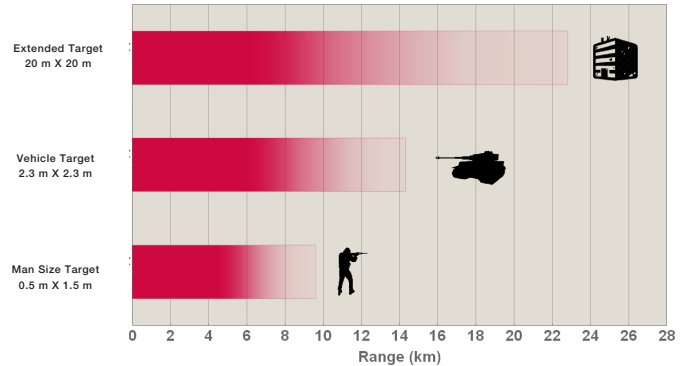
Communications Protocol:	RS-232 Std (RS-422 and RS-485 available)
Input Voltage:	14 VDC to 32 VDC
Power Consumption:	≤ 20 W

ENVIRONMENTAL

Operating Temperature:	-40 °C (-40 °F) to +71 °C (+159.8 °F)
Environmental Standards:	MIL-STD-810F and MIL-STD-461F

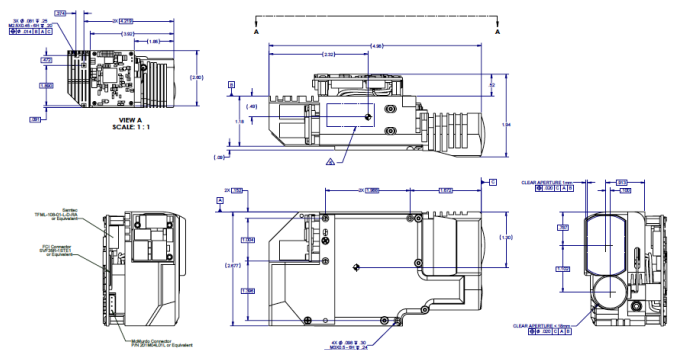
Figure 1: DP-ELRF I MLRF

Ranging Performance Using Various Targets (FAR ≤ 0.1 %)



NOTE 1: These parameters, together and in combination with the atmospheric and target characteristics shown, provide the user with the achievable range performance shown in Figure 1.

Figure 2:



Warrior Systems – ALST

2500 North Orange Blossom Trail

Orlando, FL 32804

Tel: 407-295-5878

Fax: 407-770-2984

Email: Marketing.ALST@L-3com.com

<http://www2.L-3com.com/alst/>

Cleared by DoD/OSR for public release under 15-S-2562 on 9/21/15. Export of this product is regulated by the U.S. Department of State in accordance with guidelines of "International Traffic in Arms Regulations (ITAR)" per Title22, Code of Federal Regulations, Parts 120-130.

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