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THALES

MicroMELT
Micro-Miniature Eyesafe Laser Transceiver

MicroMELT is a compact, lightweight, low cost, low power, class 1 eyesafe 1535 nm laser rangefinder module. It is capable of 1 Hz continuous to 4 Hz burst firing rate, and can be integrated into a wide range of hosts from hand-held devices to airborne & vehicle-mounted electro-optic sensor systems. The rugged design and wide operating-temperature range of MicroMELT make it suitable for deployment across the widest range of environmental conditions.



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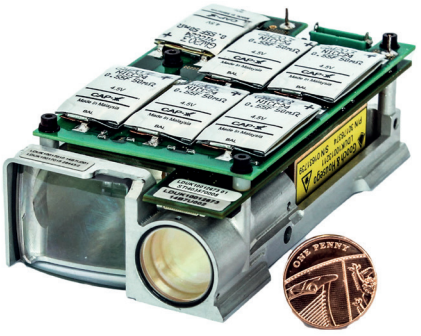


APPLICATIONS

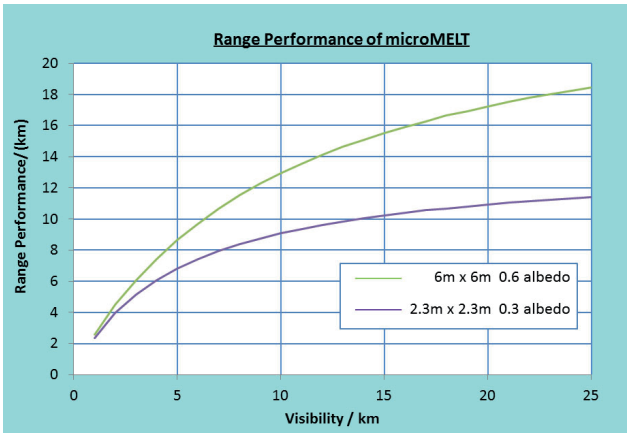
- Hand-Held EO Surveillance Systems
- Vehicle and Airborne Turrets

FEATURES

- Compact and lightweight
- Single shot to 4 Hz repetition rate
- Class 1 Eyesafe
- Low power consumption
- Extended operating temperature range
- Easily integrated into OEM systems
- Erbium Glass architecture for high performance, single shot ranging
- Designed for Military Environment

RANGE PERFORMANCE

- Range Vs Visibility (MODTRAN MLS Rural)
- Target: 2.3 m x 2.3 m @ 0.3 Albedo



TECHNICAL SPECIFICATION

Transmitter / Receiver:

- Laser type: ErYb: Glass
- Wavelength: 1535 nm
- Beam divergence: ≤0.6mrad (1)

Classification:

- CLASS 1 (BSEN-60825 2014, ANSI Z136.1-2014)

Mechanical Interface:

- Weight: <235 g
- Size: 102 x 56.38 x 33.86 mm

Environmental Specification:

- Storage: -55 °C to +71 °C
- Nominal: -32 °C to +55 °C
- Operation: -32 °C to +71 °C (extended temperature range) (5)
- Applicable standards: MIL-STD-810F MIL-STD-461F

Performance Specifications

Measurement Characteristics:

- Min/max range: 50–20000 m (2)
- Range resolution: 1 m
- Range accuracy: +/- 1m (1σ) at > 100m
- Discrimination: (15 m - 35 m configurable)
- Number of range events: 3 (First, Second, Last) (3)
- False Alarm Rate: <1%
- Continuous Repetition Rate: 1 Hz
- Burst Repetition Rate: 4 Hz (4)

Interface Requirements

Electrical Interface:

- Power supply: 9 V–16.8 V
- Off: <0.05 W
- Unarmed: <1 W
- Firing: <8 W (at 1Hz)

Interface Connectors:

- Power: Harwin Gecko Single Connector G125MSi2005L3 Vertical Male

Data Interface:

- Data format: RS422 RS485

Note 1: Full angle 90% energy

Note 2: See range performance chart to determine typical performance when ranging on a Standard NATO Target 2.3 m x 2.3 m Albedo 0.3 with atmospheric extinction co-efficient MODTRAN Mid Latitude Summer

Note 3: The MicroMELT will report up to three ranges that occur within the selected range window determined by the Min and Max range settings

Note 4: <60 shots per minute

Note 5: Extended temperature range reduced duty cycle, increased into action time

Thales Defense & Security, Inc.
22605 Gateway Center Drive | Clarksburg, MD 20871
TF+1.800.914.0303 | P: +1.240.864.7643
solutions@thalesdsi.com | www.thalesdsi.com

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