OEM FIBER LASER RANGEFINDER FOR LAND, AIRLAND AND NAVAL
EO SURVEILLANCE AND FIRE CONTROL SYSTEMS

# LRF 1550 MR

## DESCRIPTION

**The LRF 1550 MR is a compact OEM Fiber Laser Rangefinder designed for medium and long distance measurements to static or moving targets in dynamic environments.**

It is the ideal system which fits the Size, Weight and Power (SWaP) requirements to be easily integrated into Land, Air-land and Naval EO Surveillance and Fire Control solutions.

## DATASHEET

### Optical specifications / Performances

| | Min. | Typ. | Max. | Units | Comments |
|---|---|---|---|---|---|
| Wavelength | - | 1556 | - | nm | |
| False alarm Rate | - | - | 1 | % | |
| Measurement rate | | 1 | | Hz | Options in table «Range performance VS frequency and laser safety class» [1] |
| Eye safety per IEC 60825-1 | | Class 1 | | | |
| Detection range on beamfilling target | 29 | - | - | km | Beamfilling target ; 50 % reflectivity ; 50 km visibility |
| Detection range on NATO targets | 14.5 | - | - | | 2.3 m x 2.3 m target ; 30 % reflectivity ; 20 km visibility |
| Detection range on human target | 7.5 | - | - | | 1 m x 1 m target ; 10 % reflectivity ; 10 km visibility |
| Detection range | 50 | - | 30000 | m | |
| Accuracy | - | - | 0.5 | m | +/- 2 σ, measured @ 17 km |
| Divergence | - | - | 0.35 | mrad | |
| Multiple targets | | 3 | | - | Distances to targets are transmitted in ascending order of distance |
| Target discrimination | - | 15 | - | m | Between echoes |

### Electrical specifications

| | Min. | Typ. | Max. | Units | Comments |
|---|---|---|---|---|---|
| Communication interface | - | - | - | - | USB, RS422 |
| Operating mode | - | - | - | - | Sleep, Ready-to-fire, Firing |
| Measurement mode | - | - | - | - | Single shot & Continuous mode |
| Supply voltage | 12 | - | 32 | V | |
| Restitution duration | - | - | 45 | ms | Time between the end of laser firing and distance restitution |
| Consumption | - | 0,05 | - | W | Sleep mode |
| | - | 5.5 | - | | Ready-to-fire mode |
| | - | 6 | - | | Firing mode: Average @ 1 Hz |

### Mechanical Specifications

| | Min. | Typ. | Max. | Units | Comments |
|---|---|---|---|---|---|
| Boresignt alignement | - | - | 1 | mrad | Max deviation between mechanical references and optical axis |
| Architecture | - | - | - | - | OEM |
| Dimensions (W x H x D) | - | 107 x 74 x 81 | - | mm | without connectors |
| | | 112 x 80 x 81 | - | mm | connectors included |
| Weight | - | 655 | - | g | |

### 850 pointer (Option)

| | Min. | Typ. | Max. | Units | Comments |
|---|---|---|---|---|---|
| Wavelength | - | 854±5 | - | nm | |
| Output power | 200 | - | - | mW | |
| Pointer eye safety per IEC 60825-1 | | Class 3B | | | |
| Full divergence @ 1/e2 | - | - | 250 | µrad | |
| Relative beams alignment | - | - | 500 | µrad | |
| LRF weight | - | 662 | - | g | |
| Power supply | | External 5V | | | |
| Electrical interface | | MOLEX 5055680671 connector | | | |

### 650 pointer (Option)

| | Min. | Typ. | Max. | Units | Comments |
|---|---|---|---|---|---|
| Wavelength | - | 635 | - | nm | |
| Output power | - | 0,4 | - | mW | |
| Pointer eye safety per IEC 60825-1 | | Class 1 | | | |
| Full divergence @ 1/e2 | - | 0,6 | - | mrad | |
| Relative beams alignment | - | - | 5 | mrad | |
| LRF weight | - | 685 | - | g | |
| Power supply | | External 5V | | | |
| Electrical interface | | Female 2.5mm phono jack | | | |



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# LRF 1550 MR

## Environmental specifications

| | Min. | Typ. | Max. | Units | Comments |
|---|---|---|---|---|---|
| Operating temperature range | -35 | - | 71 | °C | |
| Storage temperature range | -40 | - | 85 | °C | |
| Thermal qualification (*) | - | - | - | - | MIL-STD-810G: Operating [-40°C ; +71°C], Storage [-46°C ; +85°C], thermal shock -55°C to +55°C |
| Mechanical qualification (*) | - | - | - | - | MIL-STD-810G: Acceleration 3,5g, Transport vibrations composite wheeled vehicle, Rotary wing aircraft - helicopter vibrations, Shocks 20g, 11ms |
| EMI qualification (*) | - | - | - | - | AECTP-500: Conductivity NCE05, 30Hz - 150MHz ; radiated emission - electric field, 10kHz - 18GHz ;<br>Conducted susceptibility on power leads low frequency NCS01, 30HZ - 150kHz ; conducted susceptibility radio frequency "bulk cable injection" NCS07 10kHz - 200MHz ; radio frequency NRS02 50kHz - 18GHz |

(*) Qualified through RS422 connection

## Range performance VS frequency and laser safety class

| Frequency | 1 | 5 | 10 | 15 | Hz | |
|---|---|---|---|---|---|---|
| Class 1 (**) | | | | | | |
| Detection range on beamfilling target | 29 | 22,1 | 19,5 | 17,6 | km | |
| Not eyesafe - Class ≥ 3B (**) | | | | | | |
| Detection range on beamfilling target | 29 | | | | km | |

(**) EN60825-1 v2014 standard

## Note

| | |
|---|---|
| 1 | By default, the LRF is delivered with a set and fixed measurement rate.<br>Possibility to change the rate is provided as a option. Please specify at the time of order. |



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