ULTI SENSE.

DATASHEET

LRF 7047

Long-range measuring.
Proven accuracy of 1 meter.

LRF 7047 is a robust laser rangefinder with a performance up to 30 km and an accuracy of ±1 m over the entire range.

Continuous tracking with high accuracy of ±1 m

Continuous measurement is crucial for tracking objects, and the LRF 7047 stands out as the perfect solution for tracking drones or vehicles, offering **uninterrupted 24/7** measurement capability. For real-time tracking, it is also possible to increase the **frequency up to 10 or 20 Hz** to ensure tracking continuity even if few measurements fail. Combined with the excellent measurement **accuracy of ±1 m**, the object's position can be quickly determined; even the target speed can be calculated with the integrated time-stamp feature.

Automatic performance optimization

The LRF 7047 **automatically optimizes performance** during the measurement. The secret lies in the multi-pulse technology, using ultra-short laser pulses to determine the distance. This allows to use few initial pulses to assess the measuring conditions and to fine-tune the LRF 7047 to visibility, target reflectivity, etc. In combination with **intelligent software algorithms** the LRF 7047 effectively **distinguishes real targets from irrelevant noise**.

Easy alignment with integrated 830nm pointer

The **coaxial 830 nm pointer** massively **simplifies alignment** without expensive 1550 nm cameras. It is easily detectable with a standard night vision device. This not only saves time and money for the integrator but also allows for **precise target hand-over** on the field.

PRODUCT HIGHLIGHTS

- Robust & reliable laser rangefinder up to 30 km
- High accuracy: ±1 m over entire range; <1.5 m at worst conditions
- 24/7 continuous measuring without any break
- Focussed targeting due to perfectly round beam (fiberlaser)
- Maintenance-free for life
- Measuring frequencies up to 10 Hz (more is available on request)
- Time stamp for easy synchronisation to other sensors
- Flexible integration thanks to detachable laser box
- Extremely small dimensions
- Integrated coaxial pointer for cost-efficient alignment (optional)
- Shock proof up to 800 g

APPLICATIONS

- Sensor suites on naval vessels, airborne or ground vehicles
- Fire control systems and remote weapon stations
- Observation on airborne targets
- Observation for naval vessels
- Coastguard and border protection
- Object tracking including speed determination
- Drone detection, C-UAV applications

SAFRAN

LRF 7047

TECHNICAL DATA

PERFORMANCE

Maximum range	30 000 m
Range performance on beamfilling target reflectivity: 60 %, observer visibility 50 km	23 600 m
Range performance on 2.3 m × 2.3 m target size reflectivity: 30 %, observer visibility 25 km	11 000 m
Range performance on 1 m × 1 m target size reflectivity: 10 %, observer visibility 10 km	5 600 m
Measurement accuracy (1σ) over entire range	±1 m (worst case at extreme temperatures: ±1.5 m)
Repetition rates (customization possible) full range performance approx. 90 % of full range performance approx. 85 % of full range performance approx. 80 % of full range performance For higher rates please contact Safran Vectronix	 1 Hz 3 Hz 5 Hz 10 Hz
Multiple target detection	up to 5 targets
Wavelength	1550 nm
Divergence	0.45 mrad
Optional pointer wavelength	830 nm
LRF eye safety per IEC 60825-1	Laser Class 1
Optional pointer eye safety per IEC 60825-1	Laser Class 3B

ENVIRONMENTAL CHARACTERISTICS, MEETING MIL-STD-810

Operating temperature range	–35° C to +70° C
Storage temperature range	–40° C to +85° C
Shock at 0.5 ms in z-direction (line of sight)	800 g
Shock at 0.5 ms in x- and y-direction	500 g
EMC	MIL-STD-461G

PHYSICAL CHARACTERISTICS

Weight	460 g
Dimensions (length/width/height)	93 mm × 68 mm × 87 mm

INTERFACES

Communication interface	RS 232, RS 422
Power supply	8 V – 42 V

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