

ULTI  
SENSE.

DATASHEET

# LRF 7047

Reliable performance.  
Long-range measuring.



**The LRF7047 is a robust laser rangefinder with a performance up to 30 km. Even in difficult measuring conditions objects can be tracked and positioned accurately.**

#### **Continuous tracking at long distances**

The continuous measuring rate of up to 10Hz by default allows accurate tracking of objects with nearly no loss in range performance or heat related beam wander. Combined with an excellent measurement accuracy of  $\pm 1\text{m}$ , the target object's position can be quickly and easily determined; even the target speed can be calculated with the integrated time-stamp feature.

#### **Tough, reliable and maintenance-free**

The sophisticated multi-pulse-laser-technology makes the LRF7047 extremely reliable and meets the tough requirements of remote weapon stations and fire control systems. This robustness supports reliable use in the field and at the same time reduces life-cycle costs as the module is maintenance-free.

#### **Easy to align**

The patented coaxial pointer technology provides a pointer directly in the range measurement beam optics. This pointer at 830 nm is easily detectable with a standard night vision camera. This greatly simplifies optical alignment in the production process without the need for expensive 1550 nm cameras, saving the integrator both time and money. In addition, out in the field it can be used for target handover.

#### **PRODUCT HIGHLIGHTS**

- Robust laser rangefinder up to 30 km
- Integrated coaxial pointer for cost-efficient optical alignment
- Flexible integration thanks to detachable laser box
- High measuring accuracy of  $\pm 1\text{ m}$
- Accurate object tracking with continuous measuring rate of 10 Hz
- Shock proof up to 800 g
- SWaP optimized design

#### **APPLICATIONS**

- Sensor suites on naval vessels, airborne or ground vehicles
- Fire control systems
- Remote weapon stations
- Observation and surveillance systems
- Coastguard and border protection
- Object tracking including speed determination
- Position determination

LRF 7047  
**TECHNICAL DATA**

### PERFORMANCE

Maximum range	30 000 m
Range performance on beamfilling target reflectivity: 60%, observer visibility 50km	23 600 m
Range performance on 2.3 × 2.3 m target size reflectivity: 30%, observer visibility 25km	11 000 m
Range performance on 1 × 1 m target size reflectivity: 10%, observer visibility 10km	5 600 m
Range accuracy (1σ)	±1 m
Repetition rates (customization possible)	
full range performance	1 Hz
approx. 90% of full range performance	3 Hz
approx. 85% of full range performance	5 Hz
approx. 80% of full range performance	10 Hz
Multiple target detection	up to 5 targets
Wavelength	1550 nm
Divergence	0.45 mrad
Pointer wavelength	830 nm
LRF eye safety per IEC 60825-1	Laser Class 1
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 × 68 × 87 mm

### INTERFACES

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

Technical parameters provided in this document are typical values (measured at room temperature) unless otherwise specified.  
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