

ULTI
SENSE.

DATASHEET

LRF 6742

The Counter-UAV module.
Large beam for optimized tracking.



The laser rangefinder (LRF) module 6742 is designed to provide the best possible solution within a sensor system to measure small, moving objects in the sky. It allows to work in real-time and with an accuracy deviation of less than 1 meter, which enables an accurate calculation of the trajectory of a UAV.

Large divergence simplifies object targeting

A standard LRF typically has a small beam divergence as it is optimized for measuring long distances. In CUAV applications, the operational distance is much shorter and the objects to be targeted are much smaller. Therefore, the LRF 6742 has a large beam divergence of 3 mrad. This results in a large laser beam field that is ideal for tracking small, moving objects.

Reliable measurement with optimized receiver

Under clear skies, sunlight easily overlays a laser beam. However, compared to a standard LRF, the LRF 6742 is optimized for very bright lighting conditions and perfectly detects even the smallest laser reflections by utilizing a special receiver.

Accurate tracking in real-time

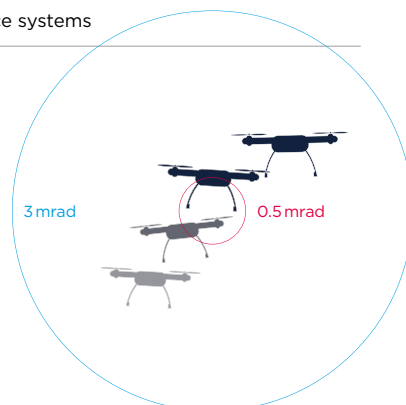
Until now, accurately tracking a small, moving object in real-time has been a challenge. Often, a combination of multiple sensors was required. This resulted in complex and time-consuming data processing and poor accuracy. In comparison, the LRF 6742 enables real-time tracking of a moving drone with an accuracy deviation of less than 1 meter.

PRODUCT HIGHLIGHTS

- Innovative LRF receiver optimized for measuring in bright skies
- Large divergence (3mrad) simplifies targeting of moving objects
- Superior real-time measurement accuracy of 1m
- Continuous measuring rate of up to 20Hz
- Coaxial Pointer (optional) simplifies alignment to host system
- Quick exchange with Ultisense module LRF6042 (similar interface)
- Reliable & cost-efficient drone tracking solution
- Commercially classified

APPLICATIONS

- Electro-optical drone defence systems (military and civilian)
- CUAV systems (military and civilian)
- Air defence systems against loitering munition
- Observation and surveillance systems



LRF 6742

TECHNICAL DATA

PERFORMANCE

Maximum range	12 000 m
Range performance on 2.3 m × 2.3 m target size reflectivity: 30 %, observer visibility 25 km	3 200 m
Range performance on 1 m × 1 m target size reflectivity: 30 %, observer visibility 25 km	2 200 m
Range performance on 0.22 m × 0.22 m target size reflectivity: 40 %, observer visibility 25 km	1 100 m
Range accuracy 1 Hz (1σ)	±1.0 m
Repetition rates (continuously) full range performance approx. 80 % of full range performance approx. 70 % of full range performance For higher rates please contact Safran Vectronix	1 – 20 Hz 1 Hz 5 Hz 10 Hz & 20 Hz
Multiple target detection	up to 5 targets
Wavelength	1550 nm
Divergence	3 mrad
Optional pointer wavelength	830 nm
Eye safety per IEC 60825-1	Laser Class 1
Pointer eye safety per IEC 60825-1	Laser Class 1 (Low Power Pointer)

ENVIRONMENTAL CHARACTERISTICS

Operating temperature range	–35° C to +70° C
Storage temperature range	–40° C to +85° C
Shock	40 g, according to MIL-STD-461G

PHYSICAL CHARACTERISTICS

Weight	325 g
Dimensions (length/width/height)	110 mm × 56 mm × 52 mm

INTERFACES

Hardware interface	Samtec LSHM
Communication interface	RS 232, RS 422
Power supply	8 V – 42 V
Mechanical interface	3 threaded holes, 2 positioning holes

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Values of technical parameters in this document are typical values (measured at room temperature) unless otherwise specified.
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