



LR-D1 Pro

Hybrid-Frequency Long Range
Radar Altimeter

Vertical Takeoff and Landing (VTOL) Package

Developed by leveraging the latest innovations in mmWave technology, this dual frequency model of the LR-D1 radar altimeter is the first of its kind in the industry.

The LR-D1 Pro features unrivaled precision in altitude sensing, allowing you to track your aircraft's altitude with the utmost confidence.

Key Features

Suitable for use on unmanned multirotors, helicopters, and fixed-wing aircraft

Suitable for use in environmental conditions such as rain, fog, dust, or at sea.

Radar enhancements easily applied via the serial port

Data output configurable for CAN, RS-232, and more

1.5 cm

Altitude Readouts

200+ m/s

Operational Velocity

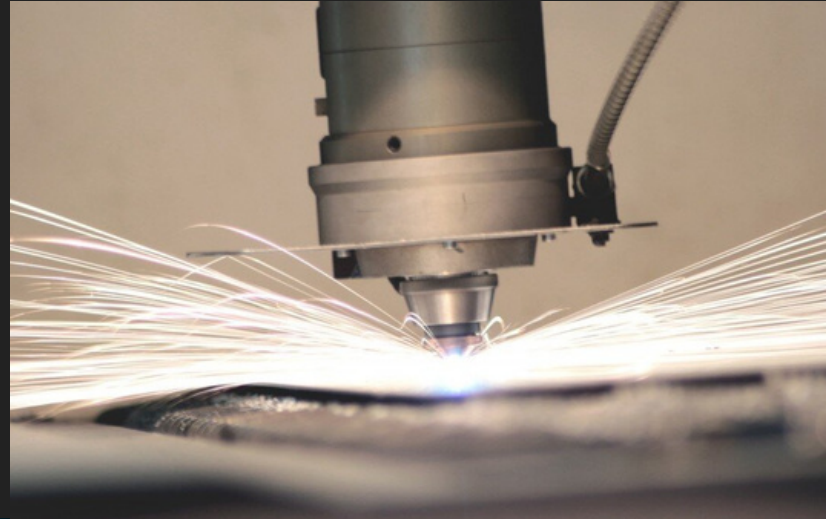
40

Measurements per Second

Ainstein's LR-D1 Pro was designed specifically to provide precision to VTOL applications, displaying accurate altitude and velocity measurements up to 500m in any environment including rain, fog, and snow. The LR-D1 Pro utilizes a dual radar antenna design, employing a 60 GHz antenna at low altitudes and a 24 GHz antenna at high altitudes making the altimeter ideal for takeoff, landing, VTOL, and high altitude maneuvers.

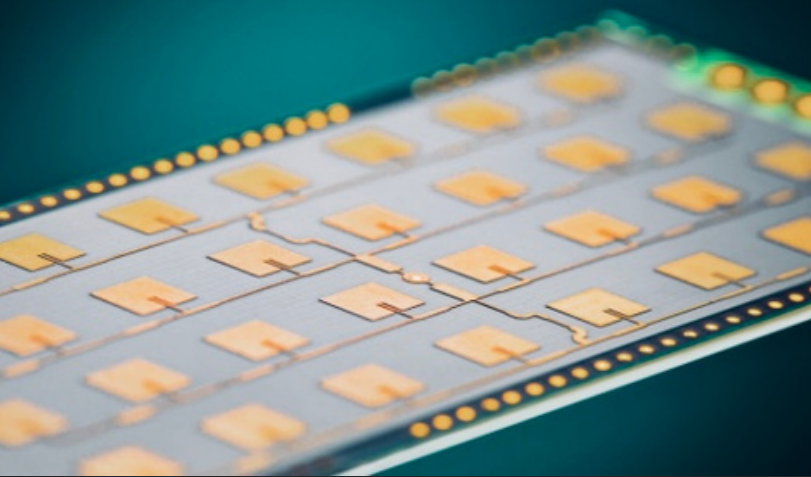
INDUSTRIAL GRADE DESIGN

The LR-D1 Pro is manufactured with a high-fidelity 24 GHz transceiver and a IP67 rated enclosure making the altimeter ideal for high-speed, high-shock, and high-vibration environments, suitable for the most heavy-duty UAS applications.



DUAL RADAR CONFIGURATION

The LR-D1 Pro simultaneously measures altitude using 24 GHz and 60 GHz antennas, employing data fusion to provide you seamless altitude output with unprecedented reliability during both ascent and descent.



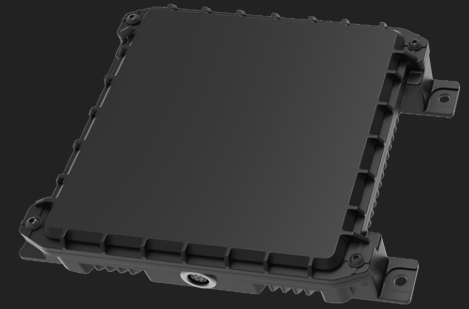
CENTIMETER-LEVEL PRECISION

The LR-D1 Pro's novel 60 GHz component provides precision down to the nearest centimeter to support the most critical moments of flight.

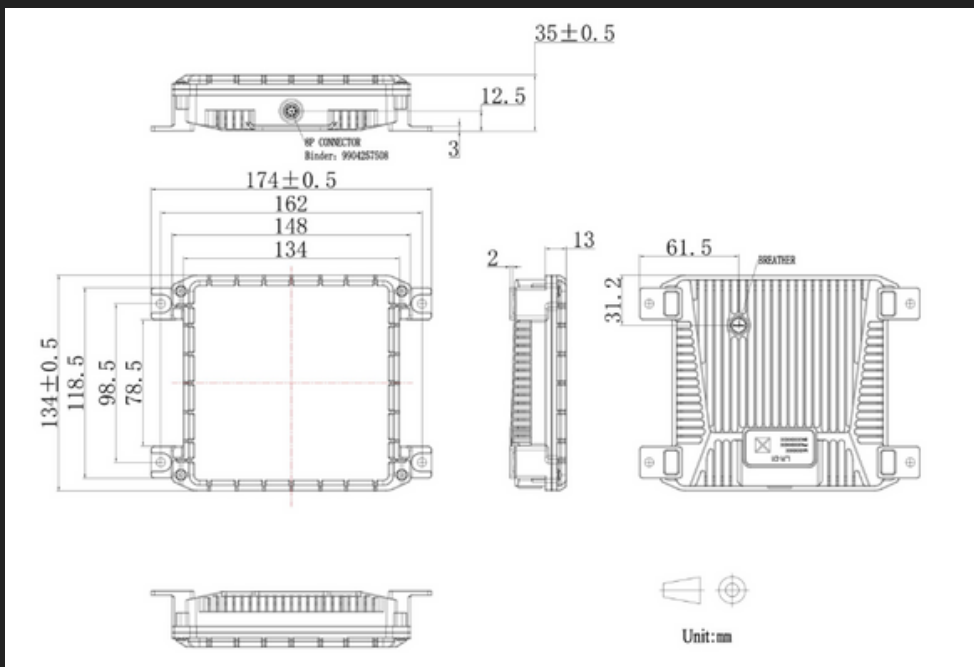


LR-D1Pro Specifications

Frequency	24 GHz, 60 GHz
Bandwidth	250MHz
Power Consumption	13W
Operating Voltage	10 - 30 V
Altitude Range	0.3m - 500m
Altitude Precision	±0.364m (>5m) ±0.075m (<5m)
Altitude Step Size	±0.075m (>5m) ±0.015m (<5m)
Update Rate	40 Hz
Field of View	43° Azimuth 30° Elevation
Operating Temperature Range	-40°C - 70°C
Dimensions	148mm x 134mm x 35mm
Weight	634g
IP Rating	IP67
Interface	CAN UART TTL RS-232 RS-422 RS-485



The LR-D1 Pro features a temperature controlling enclosure design



Ainstein is the global leader in mmWave radar with deployments in over 40 countries. Our team consists of highly skilled radar engineers, scientists, and technologists who can apply radar to any application.

www.ainstein.ai

Copyright Ainstein AI, Inc. | LR-D1 Pro

For further information, please contact:

Ainstein AI, Inc.
1421 Research Park Drive,
Lawrence, 66049 United States