



smartmicro

SMS.SMART MICROWAVE SENSORS GMBH

Micro Radar Altimeter

UMRR-0A

- Radar altimeter for use in Unmanned Aerial Vehicles, helicopters or small aircraft
- Precise and stable altitude measurements at 0.5 to 500 m
- Very small, very lightweight, extremely robust design
- low cost

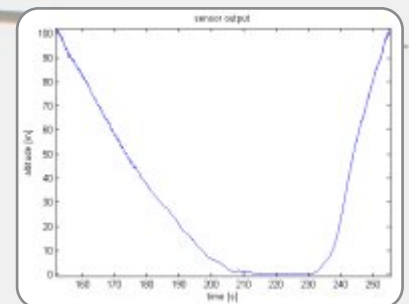


Six reasons to choose the Micro Radar Altimeter

- 1 Smallest Size**
 The Micro Radar Altimeter is the smallest size altimeter available today – 11 x 9.9 x 2.84cm. With just 310cm³ it outperforms all competitors.
- 2 Lowest Weight**
 Lowest weight radar altimeter on the market. Only 350g in standard housing. Sensational 160g for integrated version.
- 3 Lowest Power**
 Consuming just 3.7W from 7-32V DC it represents the lowest power altimeter device on the market.
- 4 Unbreakable Design**
 Derived from automotive design, the Micro Radar Altimeter is extremely robust, works in -40 to +85°C temperatures and withstands highest shock and vibration levels.
- 5 One Single Unit**
 Competitors need two models to cover 0.5 to 100m and 5m to max. height. The Micro Radar Altimeter does it all in one unit: 0.5 to 500m. Antenna System is integrated.
- 6 Fastest Update**
 While most altimeters need 100ms for one measurement, the Micro Radar Altimeter takes just 17ms for one cycle – ideal for terrain mapping.

How it works

The Micro Radar Altimeter is one of the most advanced altimeters on the market today. It represents a 24 GHz radar sensor transmitting a low power microwave beam to the ground and capturing all reflections within its coverage. The applied radar principle allows precise and stable direct measurement of the height above ground at a high update rate.



Sensor output of touch & go maneuver, showing exceptional height accuracy and low minimum height.



Applications

- UAVs
- small UAVs (sUAV)
- micro UAVs (MAV)
- fixed and rotary winged aircraft
- VTOL aircraft
- precision airdrops
- terrain awareness and warning systems (TAWS)
- terrain mapping
- wave height monitoring
- surveying applications
- and similar applications

Your local distributor:

Micro Radar Altimeter

UMRR-0A



Features

- Determines true height above ground
- Insensitive to aircraft attitude:
 - supported pitch -20° ... $+20^{\circ}$
 - supported roll -20° ... $+20^{\circ}$



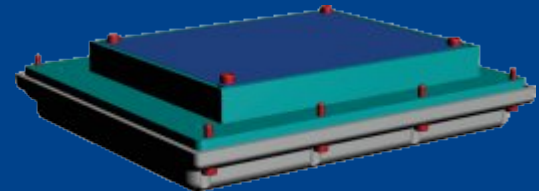
standard version, top view



standard version, side view

- Stable and precise measurements
- Works for high forward and vertical speeds
- Built-in test (BIT) and diagnostics on board
- Very small, very lightweight
- Works under adverse weather and visual conditions

- Long lifetime, extremely robust design
- Maintenance free
- Interface options: RS485 or CAN



light version, bottom view

Specifications

Model	UMRR-0Ax70x-22070x
PERFORMANCE	
Altitude interval	0.5 ... 500 m
Typical altitude accuracy	0.25 m or 2 % (maximum of)
Update rate	60 Hz (time between updates < 17 ms)
Supported pitch and roll angles	-20° ... $+20^{\circ}$
MECHANICAL	
Weight	350 g (standard version), 160 g (integrated version)
Dimensions	110 x 99 x 29 mm
Enclosure	Rugged, watertight casing conforming to IP67 (standard version)
ENVIRONMENTAL	
Ambient temperature:	-40° ... 85° C
Shock / Vibration	100 g _{rms} / 14 g _{rms}
Pressure / Transport altitude	0 ... 10,000 m
GENERAL	
Frequency Band	24.0 ... 24.25 GHz
Transmit Power	16 dBm
Power supply	7 ... 32 V DC
Connector	8 pin plug Binder Series 712
Communication Interfaces	RS485, CAN