

Miniature Radar Altimeter

MRA Type 2 – 0.2-100m range

The highly precise Miniature Radar Altimeter (MRA) Type 2 is the world's smallest, low cost, lightweight, short-range radar altimeter. The MRA Type 2, which builds on the success of the MRA Type 1, is a unique product primarily aimed at the Unmanned Air Vehicle (UAV) and Aerial Target markets. The Type 2 operates at a lower altitude with a higher precision and incorporates an integrated antenna making the entire unit even more uniquely compact. It is ideal for use as an aid to Vertical Take Off and Landing (VTOL) of UAVs.

Key Features

- World leading resolution
- Compact unit with integrated antenna
- Low cost
- Lightweight and low power consumption
- Superior reliability
- RoHS compliant
- Ease of installation



MRA Type 2 – system specification

Altitude	
Nominal Range	0.2 to 100m
Resolution	
Default	0.02m

Physical	
Length	140 mm
Width	75 mm
Height	46 mm
Weight	400g
Integrated antenna dimensions	
Length	12.6 mm
Width	8.6 mm

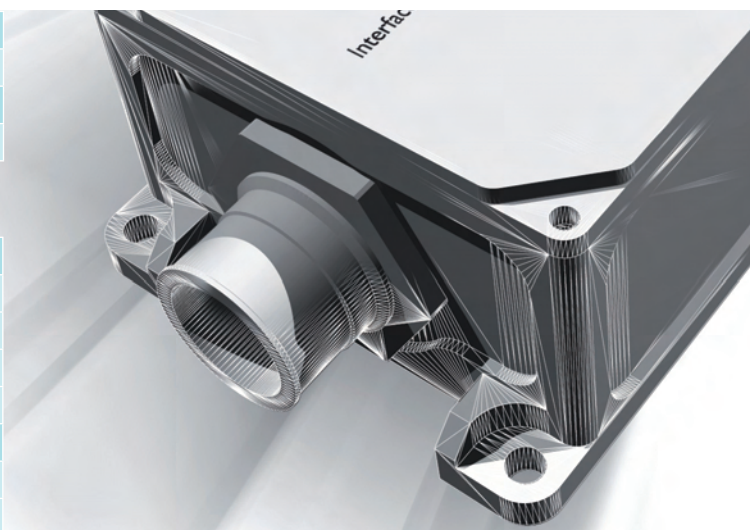
Environmental	
Temperature	-40°C to +55°C operational -40°C to +85°C storage
Qualification	MIL-STD-810F

System power requirements	
Input Power	9 VDC to 32 VDC Normal consumption 3W Peak consumption 7W

Interfaces	
Signalling and control	RS232 (RS485 and RS422 options are available on request)
Altitude update	10 Hz (100 ms)

RF specification	
Frequency	76 to 77 GHz
RF output power	+11 dBm nominal
Antenna 3dB beamwidth	20° to 40° (regular pattern dependent on installation)
Antenna gain	10 dBi

Warranty and Safety	
Warranty	12 Months
Hazardous Substances	RoHS compliant



Applications

- Unmanned Air Vehicles (UAVs)
- Vertical Take Off and Landing (VTOL)
- Aerial targets
- Terrain Awareness and Warning System (TAWS)
- Wave height monitoring
- Surveying applications
- Airborne mapping

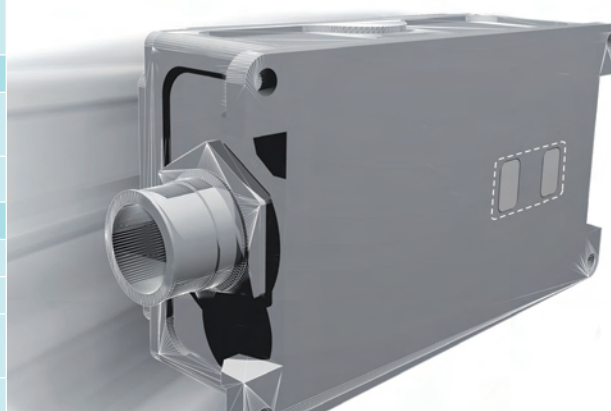


Figure: MRA Type 2 Integrated Antenna

The specification is typical of the performance that can be expected when the system is fitted in a UAV environment. Actual performance will be influenced by the specific operating environment.

For further information please contact:

Vince Dobbin

T +44 (0)1794 833125
F +44 (0)1794 833433
vince.dobbin@roke.co.uk

Roke Manor Research Limited

Roke Manor, Romsey, Hampshire SO51 0ZN UK
T +44 (0)1794 833000
F +44 (0)1794 833433
mra@roke.co.uk
www.roke.co.uk/mra
Part of the Chemring Group