

MINIATURE RADAR ALTIMETER (MRA) TYPE 2

The world's smallest and lightest radar altimeter in its class



LOW SWAP RADAR ALTIMETER

Lightweight and comprising of a single transceiver and integrated antenna the MRA Type 2 minimises the space required on the platform and allows payloads to be maximised. Designed for plug-and-play installation, the MRA Type 2 is environmentally robust, will operate in dusty or misty conditions and operates over water. With an operational range down to 0.2m and a precision of 2cm, The MRA Type 2 provides the accurate measurements necessary for low altitude flight as well as safe and control landings.



FEATURES

- Ideal for Rotary and Fixed-Wing UAVs
- Operational range is up to 100m and down to just 0.2m making the MRA Type 2 ideal for providing height measurements for landing, vertical take-off and low altitude flights
- A compact design and integrated antenna mean the MRA Type 2 is significantly smaller than traditional radar altimeters
- Using an MRA Type 2 can offer a substantial weight reduction which allows greater payloads to be carried
- Consumes less than 3W (on average)
- Operationally proven – In service on multiple aerial platforms globally

PART NUMBER	APPLICATION	FEATURES	DATA OUTPUT
800-2280	Rotary Wing	Standard MRA Type 2	RS232
800-2282	Rotary Wing	Standard MRA Type 2 - Alternative data output	RS422
800-2285	Fixed Wing	Modified configuration for horizontal velocity up to 50m/s Increased update rate of 25Hz	RS232
800-2286	Fixed Wing	Modified configuration for horizontal velocity up to 50m/s Increased update rate of 25Hz Alternative data output	RS422
800-2284	High Speed	Tuned configuration for high speed applications Doppler effect compensation for low altitude measurement Horizontal velocity of up to 300m/s Increased update rate of 40Hz	RS232
800-2287	High Speed	Tuned configuration for high speed applications Doppler effect compensation for low altitude measurement Horizontal velocity of up to 300m/s Increased update rate of 40Hz Alternative data output	RS422

MRA TYPE 2 SPECIFICATIONS

Performance	
Altitude Range	20cm - 100m
Precision	2cm

Interfaces	
Data/Control	RS232 and RS422

Physical	
Dimensions	140mm x 75mm x 46mm
Weight	375g

Environmental	
Operational Temperature	-40°C to 55°C
Storage Temperature	-40°C to 85°C
MIL-STD-810F	Vibration (operational) - 514.5 Proc I Cat 14 (helicopter) Shock (functional) - 516.5 Proc I, 20g Shock (crash safety) - 516.5 Proc I, 40g Low pressure (altitude) - 500.4 Proc II, 15,000ft
IP67	Dust: No ingress Water: 30 minutes immersion at 1m depth

Technical*	
Supply Voltage	9V - 32VDC
Frequency	76 - 77GHz
Beamwidth	20° x 40°
Power Consumption	3W mean**
RF Output Power	+11dBm nominal
Antenna Gain	10dBi
Update Rate	10-40Hz (application dependant)

Warranty, Safety & Export	
Warranty	12 Months
Materials	RoHS compliant
Export	ITAR free UK export license not required

* The data provided above is for reference purposes only and has been presented in order to show typical operating parameters and characteristics that may be achieved with the Roke MRA. The actual performance of this type of device may vary depending on external aspects such as ground terrain features and the physical characteristics and orientation of the platform that the equipment is deployed on. Please consult with Roke regarding your specific requirement.

** 29W peak and 7W during measurements.

It is the responsibility of the purchaser/end user to ensure that they comply with any licencing requirements, including but not limited to Radio Frequency spectrum usage, for their end use in the countries/locations in which the unit will be operated.

Roke Manor Research Ltd does not accept any liability for any such infringements when the unit is in operation.