24 GHz Millimeter- Wave Radar Altimeter

Functional Characteristics

The millimeter-wave radar altimeter operates in the 24 GHz frequency band. It is applied to UAV platforms to measure the height of the UAV platform relative to the ground. This radar transmits Frequency Modulated Continuous Wave (FMCW) signals and receives echo signals reflected from ground targets to measure the real-time height of the UAV. It features advantages including compact size, light weight, low power consumption, all-weather and all-time operation.

Main Application: Altitude Measurement Equipment for UAV Platforms.

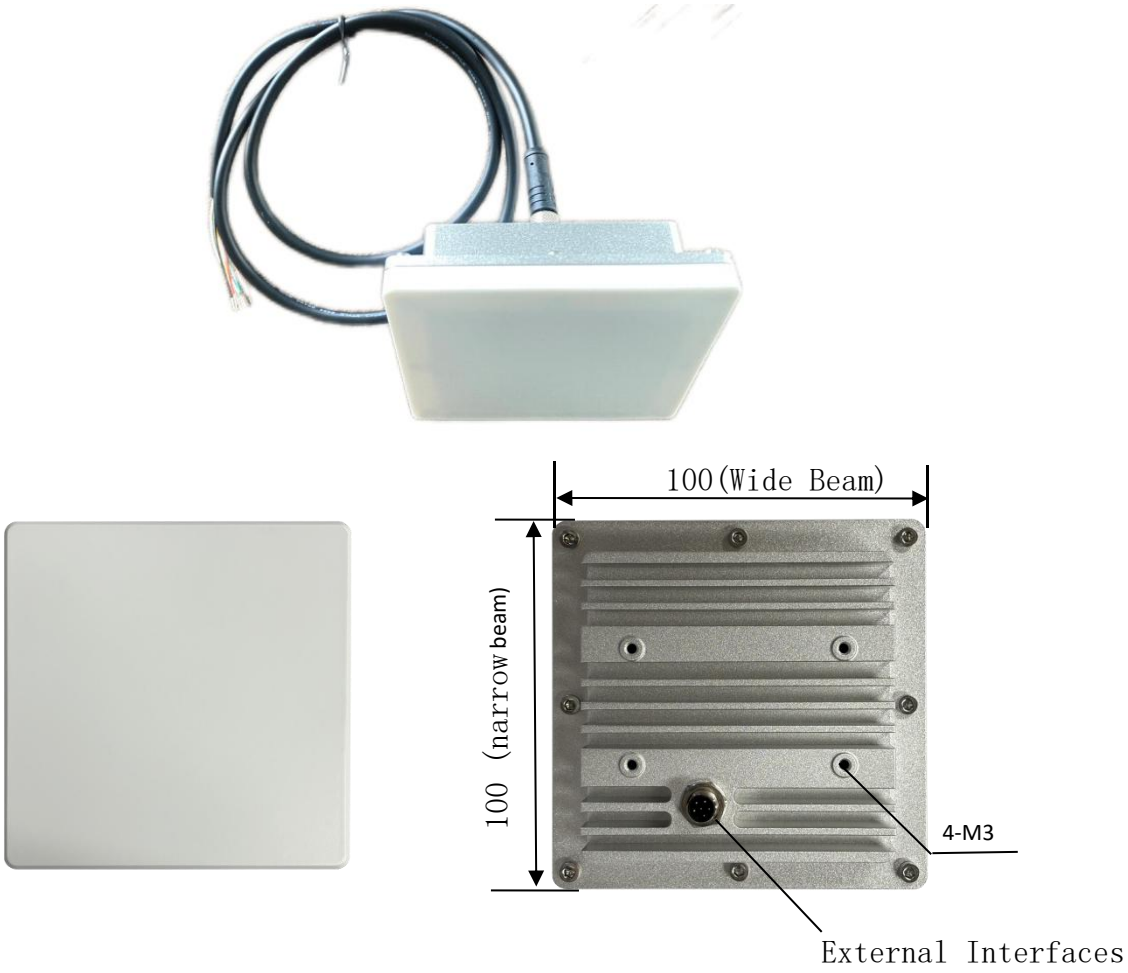
Structural Parameters

Operating Parameters	Min	Typ	Max	Unit	Remarks
Operating FrequencyParameters		24.10		GHz	
Output Power		9		dBm	
Operating Range	0.5	200	240	m	
Ranging Accuracy		±0.2		m	
Data Frame Rate		10		Hz	
Beam Width (3dB)		12		°	Horizontal Direction
		24		°	Vertical Direction
Supply Voltage	9	24	36	V	DC
Supply Current		40		mA	

Operating Temperature	-40		+60	℃	
Product Dimensions	100×100×38			mm	
Product Weight	260			g	

Product Outline and Installation Dimensions

Product outline and installation dimensions are shown in the figure below:



The radar altimeter features a rectangular housing structure with dimensions of 100 mm × 100 mm × 38 mm. Its front side is the radar radiation surface, while the rear metal surface serves as the mounting surface. The waterproof aviation socket connectors on the rear side are used for external connection to realize radar power supply and data communication.

The radar altimeter adopts a sealed design and features IP67

waterproof performance.

The radar altimeter is externally fixed with four M3 screws, and the screw-hole spacing is 54 mm × 30 mm.