



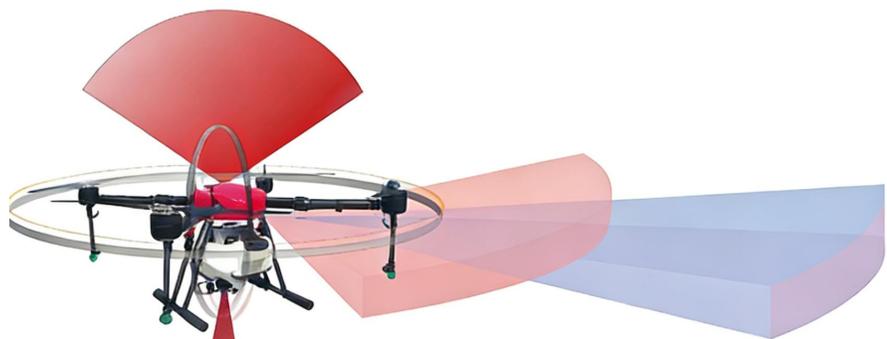
**MILLIMETER RADAR SENSING**

UAV FLIGHT

CONTROL SAFETY

Yteq Sense Technology Co., Ltd.

# Millimeter Radar For UAV Flight Control Safety



Application Scenarios



Multi-rotor UAV



Fixed wing UAV



eVTOL aircraft



Collision Avoidance Radar & Altimeter

# Product——120m UAV Collision Avoidance Radar

UAV Collision Avoidance Radar is developed to detect obstacles to UAV during flying, so the flight control can make action to avoid collision and bring safety to UAV. The radar has advantages of high precision, small size, high sensitive, light weight, easy for integration and stable performance. It will send back the relative distance, speed and angle data between obstacles and radar to make the drone keep away from obstacles and ensure its safe working.

Item	Parameters	Data
Antenna Performance	Azimuth	$\pm 15^{\circ}$
	Elevation	$-5^{\circ}\sim+3^{\circ}$
	EIRP(dBm)	30
	Distance detection range	1.5~120m
Detection Performance	Distance detection accuracy	$\pm 0.1\text{m}$
	Distance detection resolution	0.9m
	Frequency	79GHz
Radar Performance	Refresh Rate	20Hz
	Bandwidth	0.16GHz
	Working Voltage	5-24V
	Working Temperature	$-40^{\circ}\text{C}\sim 85^{\circ}\text{C}$
System Property	Power Consumption	3W
	Protection Rating	IP67
	Communication Interface	UART/CAN
	PCB Size	55*52*1.6mm



# Product——25M UAV Collision Avoidance Radar

UAV Collision Avoidance Radar is developed to detect obstacles to UAV during flying, so the flight control can make action to avoid collision and bring safety to UAV. The radar has advantages of high precision, small size, high sensitive, light weight, easy for integration and stable performance. It will send back the relative distance, speed and angle data between obstacles and radar to make the drone keep away from obstacles and ensure its safe working.

Item	Parameters	Data
Antenna Performance	Azimuth Width (-6dB)	$\pm 15^\circ$
	Elevation Width (-6dB)	$-5^\circ \sim +3^\circ$
	Max EIRP	30 dBm
	Detect Range	1.5~25 m
Detection Performance	Distance Accuracy	$\pm 0.1$ m
	Distance Resolution	0.12 m
	Frequency	79 GHz
	Refresh Rate	20 Hz
Radar Performance	Frequency Bandwidth	1.4 GHz
	Working Voltage	5 – 24V DC
	Working Temperature	$-40\sim + 85^\circ\text{C}$
	Power Consumption	$\leq 3$ W
System Performance	Waterproof Level	IP67
	Interface Port	UART/CAN
	PCB Size (mm)	55*52*1.6



# Product——200M UAV Altimeter Radar

200M UAV Altimeter Radar is a terrain following sensor, detecting to ground for a height up to 200m. The radar can adapt various complicated ground condition and environment. By detecting the flying height, it provides the guidance for agriculture plants protection UAVs and logistic delivery UAVs. Our radar sensor can be compatible to work with Ardupilot / Pixhawk flight controller.

Features	Specification	Parameters
Antenna Feature	Azimuth Angle (3dB)	$\pm 15^{\circ}$
	Elevation Angle (3dB)	$\pm 4^{\circ}$
	Maximum EIRP (dBm)	30
Radar Feature	Detection Range	0.9-200m
	Ranging Accuracy	0.1m
	Range Resolution	0.9m
	TX Frequency (GHz)	79
	Refresh Rate (Hz)	20
	FM Bandwidth (GHz)	1.5
	Working Voltage	5~24V
System Feature	Operating Temperature	$-40^{\circ}\text{C}\sim 85^{\circ}\text{C}$
	Power Consumption	3W
	Data Interface	UART
	Dimension	76*71.5*19.6mm



# Product—25M UAV Altimeter Radar

25M UAV Altimeter Radar is designed for agriculture drone altitude holding to 0.2~25m. The UAV sensors can detect flying height automatically and is compatible to Pixhawk / Ardupilot controller with CAN interface. The radar can adapt various complicated ground condition and environment. By detecting the flying height, it provides the guidance for agriculture plants protection UAVs.

Features	Specification	Parameters
Antenna Feature	Azimuth Angle (3dB)	$\pm 15^\circ$
	Elevation Angle (3dB)	$\pm 4^\circ$
	Maximum EIRP (dBm)	30
Radar Feature	Detection Range	0.2-25m
	Ranging Accuracy	0.02m
	Range Resolution	0.12m
	TX Frequency (GHz)	79
	Refresh Rate (Hz)	20
	FM Bandwidth (GHz)	1.5
System Feature	Working Voltage	5~24V
	Operating Temperature	-40°C~85°C
	Power Consumption	3W
	Data Interface	UART/CAN
	Dimension	76*71.5*19.6mm

