

AEROSENTRY ONE

DRONE DETECTION SENSOR



DRONE & CONTROLLER CLASSIFICATION

DRONEDEFENCE

[DRONEDEFENCE.CO.UK](https://www.dronefence.co.uk)

AEROSENTRY ONE

DRONE
DETECTION UP
TO 80KM

The complete airspace monitoring system for conspicuous drones and aircraft.

The AeroSentry One system is a fixed passive radio frequency (RF) scanning system, which detects the unique RF transmissions of commercial off the shelf drones, as well as ADS-B and 978 MHz.

All AeroSentry One detections are then fed directly into our AeroTracker platform, providing full airspace awareness in real-time. Using multi-sensory technologies, the AeroSentry One can provide notice of a drone operating in your airspace.

Monitors all types
of RF transmitting
drones

ADS-B 1090MHz
Detection range of
up to 80km

All weather
system

AeroTracker
Integration

HOW IT WORKS

1



AeroSentry detects a drone's RF signature up to 5km away

2



Information displayed on our AeroTracker platform

3



Security operatives alerted or the drone jamming system automatically activated

AEROTRACKER INTEGRATION

AeroSentry One is fully integrated into our AeroTracker platform, for complete visibility on all aircraft and UAV detection, 24/7.

The cloud-based system, provides AeroTracker access on-the-go, via web browser or progressive web app.

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TECHNICAL INFORMATION

Dimensions	Power box - 300mm x 400mm x 180mm Sensor box - 220mm x 250mm x 50mm Antenna - 300 x 20mm Long range antenna - 600 x 20mm
Weight	Power box - 5.43kg Sensor box - 1.75kg
Radio Frequency	2.4 - 5.8 GHz, 1090 MHz, 978 MHz
Detection ranges (up to & depending on conditions)	Remote ID - 5 km Drone ID - 5 km ADS-B 1090MHz - 80 km 978 MHz - 32 km
Software	Bespoke AeroSentry edge computing SDR analysis
Synchronization	PPS time reference
Power	110 - 240V AC
Connectivity	10/100/1000 BASE-T Ethernet Integrated GPS receiver Cellular 3G / 4G (optional)
Operating temperature	-40°C to 55°C
Operating humidity	10 - 90 %
IP Rating	IP65 enclosure (all weather)
Coverage	360°
Communication	GSM
Connectivity	LTE
Updates	Over the air

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RF DETECTION PERFORMANCE STATEMENT

The maximum detection distance we are able to achieve with our RF detection is 5,000 meters from point of transmission to RF Receiver. However, as with all RF based systems, performance is dependant on a number of factors including;

- Complexity of the environment
- Terrain
- Transmission Power of Drone
- Sensitivity of Receiver
- RF Noise Floor
- Altitude of Drone
- Altitude of Sensor
- Magnetic Fields
- Time of Day
- Weather Conditions
- Humidity
- Atmospheric Pressure

Given there are so many variables it is impossible to determine with 100% certainty how any RF system will perform in any specific environment and results may vary.

We employ a number of different RF analysis techniques to detect drones, these include;

- Packet Decryption
- Packet Analysis
- Power Difference on Arrival Direction Finding
- WiFi Protocol Analysis
- Pattern Matching

There are also a wide range of communication protocols used by drones with varying transmission powers. Due to the nature of these protocols some are easier to detect than others and offer more information which we can analyse.

The result of these factors mean that we offer various detection results depending on technologies used. These detection results vary in fidelity from 3D position to proximity alert, detection ranges up to 5km and frequency of detection up to 45 seconds.

HIGHEST TO LOWEST FIDELITY

- 3D Position and Classification of Drone & Controller up to 5km updated every 1 - 5 seconds Decryption
- 3D Position and Classification of Drone up to 1km updated every 10 - 20 seconds
- 90 Degree direction of Drone up to 1km updated every 1 - 5 seconds
- Proximity alert of Drone up to 1km updated every 10-20 seconds