

Drone Detection Equipment Product Technical Specs v3.0



Product Name: Drone Detection Equipment

Model: ZD-FTD1

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1. Product Overview

The ZD-FTD1 UAV detection and positioning equipment can autonomously detect, alert, identify, and locate unmanned aerial vehicles (mainstream models) individually. Through TDOA technology, multiple devices can network, enabling real-time precise positioning of various brands, models, custom-built, and non-standard drones.

This equipment boasts broad frequency coverage, long detection range, and high resilience to interference. Its integrated industrial design allows for easy deployment, making it suitable for low-altitude security operations in complex environments such as urban settings.

2. Product Composition

The product mainly consists of three parts: equipment host, power adapter, and bracket, as illustrated in the table below:

Table 1 Detailed Hardware Components of the Product

No.	Device name	Quantity	Unit
1	Equipment Host	1	Pcs
2	Power Adapter	1	pcs
3	Bracket and Mounting Accessories	1	pcs

3. Product Functions

1) **TDOA Positioning:** Networking multiple (≥ 3) devices using TDOA technology enables the tracking and positioning of various brands and models of unmanned aerial vehicles (UAVs).

2) **Comprehensive Detection and Identification:** Capable of identifying UAV brand, model frequency band, bandwidth, and other related information.

3) **Multi-target Trajectory Tracking:** Simultaneously locates and tracks multiple UAVs, displaying multiple UAV flight trajectories concurrently.

4) **UAV Monitoring** ^[1]: Capable of obtaining information within the monitoring range of UAVs, including serial numbers, models, positions (latitude, longitude, azimuth), speed, altitude, take-off points, return points, flight paths, remote controller positions (latitude, longitude, azimuth), and other related data.

5) **SN Serial**

Number ^[2]: Capable of recognizing the unique serial number (SN) of UAVs to confirm their individual identity information.

6) **Pilot Positioning** ^[3]: A single device is capable of locating the pilot's position, displaying real-time information such as the pilot's (remote controller) location (latitude, longitude), azimuth, and distance from the device's position.

Note: [1]-[3] Effective for DJI OcuSync series video transmission drones.

7) **Blacklist/Whitelist**: Capable of distinguishing between cooperative and non-cooperative UAVs. When detecting cooperative UAVs, the device does not trigger an alarm and can be configured to mark these cooperative UAVs as trusted.

8) **Intrusion Alert**: When the device detects UAV intrusion, it triggers either an audible or visual alarm.

9) **Trajectory Playback**: Supports playback of UAV flight paths, assisting security personnel in analyzing historical UAV flight data.

10) **Detection Log**: The detection log maintains a historical record of detections, including multi-dimensional information such as UAV serial numbers, models, frequencies, and more.

11) **Data Visualization and Analysis**: Supports statistical analysis of UAV detection and flight data, presenting visual representations such as heatmaps, line graphs, and other visualizations.

12) **Electronic Maps**: Supports switching between electronic maps, including options like AMAP Maps, Bing Maps, and Google Maps.

13) **Multi-device Networking**: The equipment can connect to a backend management platform, allowing multiple devices to network together, ensuring broad coverage across extensive areas.

14) **Surveillance-Strike Coordination**: Capable of integrating and networking with countermeasure or navigation deception devices, achieving surveillance-strike coordination within the defense and control zone.

4. The product features

1) **Comprehensive Model Detection**: The system can identify and detect over 800 common drone models, including those from major brands like DJI, AUTEL, DAHUA, YUNEEC, as well as custom-built and Wi-Fi drones.

2) **Passive Detection**: The device does not emit any electromagnetic signals, resulting in no electromagnetic pollution, ensuring an environmentally friendly operation.

3) **24/7 Vigilance**: The device operates continuously round the clock (24/7), in all weather conditions (suitable for complex electromagnetic environments and harsh weather), providing all-around surveillance

to protect low-altitude security in critical zones.

4) **Strong Environmental Adaptability:** The device features a fixed structure design, allowing it to be consistently deployed outdoors for continuous operation.

5) **Integrated Design:** The device features an integrated structure design, ensuring easy and convenient installation.

5. Product Specifications and Parameters

5.1 Performance Metrics

Table 2: Product Performance Metrics

Number	Indicator	Parameters	Remarks
1	Detectable UAV Models	DJI,AUTEL,FEIMI, DAHUA, YUNEEC, and 800+ other common drone models	
2	Locatable UAV Models	DJI Mavic, Air, Mini, FPV, Avata, and other models	Single decoding
3	Multi brand model positioning	Common models such as DJI and Daotong, as well as unconventional models such as homemade time traveling machines	
4	Number of Recognizable Models	≥900	
5	Detection Frequency Range	100MHz ~ 6GHz	
6	Detection Range	2 ~ 6 km (Dependent on environmental conditions and drone model)	Depending on the environment and model
7	Single-Station Positioning Range	1 ~ 3km (Dependent on environmental conditions and drone model)	Depending on the environment and model
8	Detection Altitude	0 ~ 1000m	

9	Simultaneously Detectable Targets	≥10	
10	Simultaneous Tracked UAV Trajectories	≥5	Single decoding
		≥10	Multiple TDOA networking
11	Positioning Error	≤5m	Single decoding
		≤10m	Multiple TDOA networking

5.2 Mechanical parameters

Table 3: Mechanical Parameters of the Product

No.	Specification	Parameter	Remarks
1	Weight	≤12kg	Excluding power adapter
2	Dimension	(265mm*265mm*660mm)±2mm	

5.3 Electrical characteristics

Table 4: Electrical Characteristics of the Product

Index	Indicator	Parameter	Remarks
1	Total Power Consumption	≤100W	
2	Power Supply	220V AC/12V DC	

5.4 Environmental Adaptability

Table 5: Environmental Adaptability

Index	Indicator	Parameter	Remarks
1	Operating Temperature	-40~65℃	
2	Protection Level	IP66	