

DroneOptID



OPTICAL AI DRONE RECOGNITION

Application

DroneOptID software offers the latest in Computer Vision technology to detect, identify and track drone targets in real time. The camera agnostic, Artificial Intelligence (AI) model has been developed specifically for drone detection and works seamlessly with DroneShield's range of best in class drone detection and countermeasure devices.

The software is able to take geographical and environmental data from other sensors in order to slew and validate a drone threat. Once the drone is in the field of view of the camera, using proprietary DroneShield algorithms, the DroneOptID software uses motion tracking and machine learning techniques to identify and track the target.

DroneOptID software enables more accurate tracking for manual or autonomous identification of drone threats. The software assists operators to manually determine other characteristics about the drone including payload, modifications and effectiveness of active countermeasures to ensure the response matches the threat.

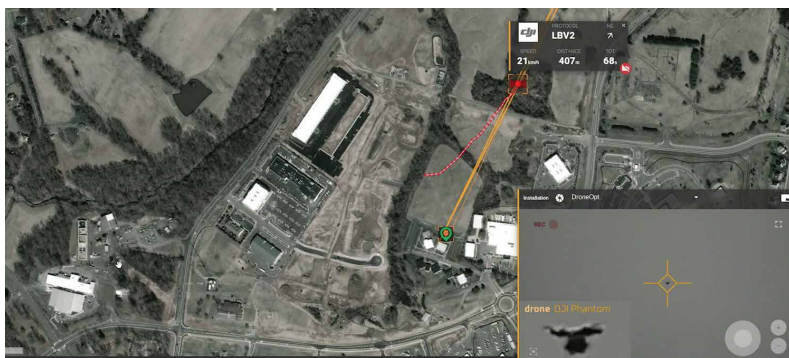
Deployable Solution

DroneOptID comes preloaded and contained to a 19inch rack server for integration, installation and deployment.

DroneShield Complete Integration

Through DroneShield Complete operators can decide what targets to track and classify with DroneOptID. Operators can access past detection events and retrieve the camera recording with DroneOptID overlay as a means of high quality evidence collection.

DroneOptID is ideal for clients who need autonomous identification of drone threats or require visual evidence collection during drone threat events.



DroneOptID Software running through DroneShield Complete (GUI)



DroneOptID Software detecting and classifying multiple drones against arctic backdrop. Red overlay represents pixels identified as 'drone object' tracked by the software.



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Features

Sensor Fusion

DroneOptID uses detection data from radar and RF detectors in order to make decisions about where the target is located. DroneShield Complete can be configured to automatically track and detect from Confirmed RF targets with no human intervention.

Active Tracking

DroneOptID uses a unique combination of motion tracking and computer vision techniques to provide reliable 'target on screen' display. DroneOptID uses proprietary flight prediction algorithm to assist tracking even when the target is inhibited from view.

Eyes in the Sky

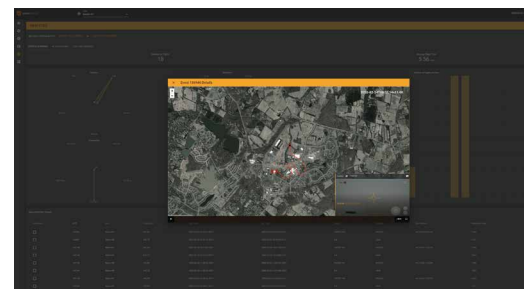
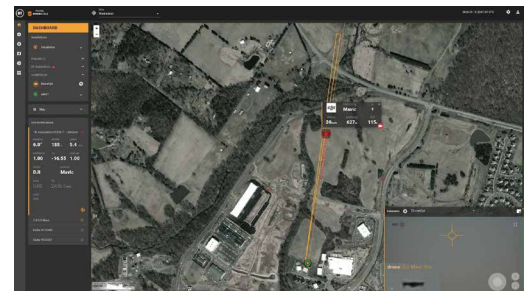
The software has been developed to identify drone objects and track pixels associated with that target. This greatly increases the ability to track targets in low light and varying background environments.

Confirmation of Countermeasure Success

Using DroneOptID the operator can confirm whether active countermeasures (electronic warfare or kinetic) has been effective in mitigating the advance of the drone threat.

Updating Drone Database

The DroneOptID model that has been trained on close to 100,000 individual samples will classify targets as drone or not drone to assist the operator with decision making. If enough data is available the software will add a secondary classification, the make and model of the drone. The database of drone models is updated quarterly as new drones are released.



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Specifications

Optical Recognition Performance

Nano drone e.g. DJI Mavic: up to 500m*

Small drone e.g. DJI M600: up to 1km*

Processing Frame Rate: 25 fps Average Detect Time: 200ms

*Specifications above based on software performance with DroneOpt1 camera and RadarZero radar. Further ranges are available with higher performance hardware.

Hardware, Power & Data

DroneOptID software requires included server to operate.

Supporting hardware requires additional power and data

DroneOptID software is camera hardware agnostic

(integration completed with Bosch MIC IP 7000 and 9000 cameras)

Recommended camera is ONVIF compliant and uses RTSP

Output Options:

DroneShield Complete GUI (User Interface)

IP-based alerts (Email, SMS, XML/JSON) or DroneOptID API

Environment and Installation

DroneOptID server format: 2RU (19 inch rack)

Weight DroneOptID (excluding Rugged Carry Case): 6.6kg (14.6lbs)

Operating temperature: -25°C to +80°C (-13°F to +176°F)

Case Colour: Black IP Rating: IP67 (in external shell case)

Maintenance & Warranty

Quarterly software updates (via subscription) to expand and improve tracking and database

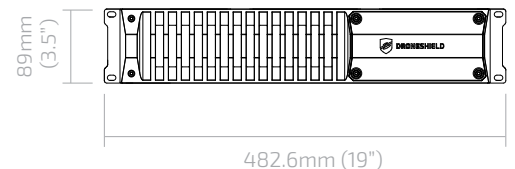
Warranty - 12 months from date of shipment

Shipping

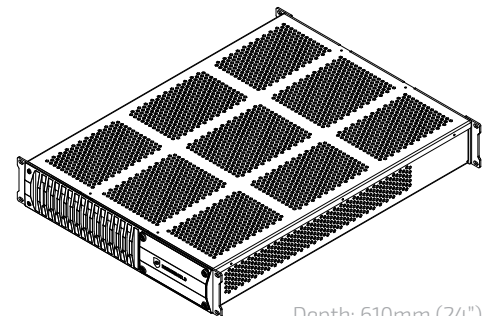
Ships in a Rugged Carry Case

HS Code: 85369030

DroneOptID Server Dimensions:



FRONT VIEW



PICTORIAL VIEW

DroneOptID Contents:

- Rugged 19 inch Server Case
- 2RU DroneOptID Rack Server
- 2m Ethernet Cable
- 2m Power Cable
- Universal Power Adaptor

Note: DroneOpt (camera) sold separately



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