

UAV Fluorescence Imaging Oil Spill Remote Sensing System

ATE5000

Features

- The system uses advanced laser-induced fluorescence technology with microsecond response time, detecting oil spills below 50m altitude and monitoring CO₂ and SO₂ emissions.
- It integrates flight control for oil spill and gas inspections, with remote or cloud-based data viewing and control.
- It supports automated area scanning, manual leak scanning, and data export via an app.
- Real-time displays oil spill, gas status, coordinates, and time.
- Wireless transmission supports up to 15km.
- The system provides 24/7 sea surface monitoring, unaffected by darkness or fog, ideal for emergency oil spill and gas detection.

Description

The ATE5000 UAV Fluorescence Imaging Oil Spill Remote Sensing System by Optosky is an advanced solution for detecting oil spills and gas emissions. It features a high-performance oil spill detector, gas detector, stable quadcopter UAV, large-capacity storage, wireless imaging, and ground control system, providing a new way to monitor oil spills and ship-related pollutants.

Using advanced remote sensing, the system efficiently detects oil spills and atmospheric pollutants, improving environmental monitoring's automation and accuracy. Its real-time data management supports environmental protection and emergency response.

The ATE5000 offers precise inspection for oil spill and gas detection in rivers, lakes, and oceans. Ground software receives real-time data, triggers alarms for oil spills, and generates inspection reports, supporting both automated and manual flight operations.

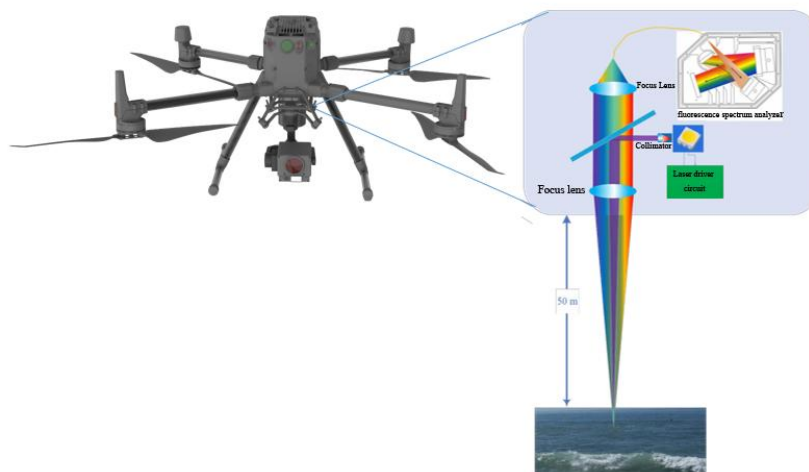


Figure 1: UAV Fluorescence Imaging Oil Spill Remote Sensing System

1. Selection Guide

Model	Description
ATE5000	UAV Fluorescence Imaging Oil Spill Remote Sensing System

2. Parameter

Oil Spill Detection Module		
Detection Target		Detects all types of oil
Detection Principle		Laser Induced Fluorescence (LIF) technology
Performance		All-weather oil spill detection, recognition, and alarm, with remote alarm capability
Sensitivity		≤20um
Minimum Target Radial for Oil Film Area Detection		≤5m
Response Speed		≥0.1s
Detection Distance		Daytime >50m, nighttime >50m
Coverage Area		5km line-of-sight distance
Detection Frequency		≤10s per detection
Gas Detection Module		
Detection Target		Typical ship atmospheric pollutants: CO2, SO2
Detection Principle		Non-dispersive infrared absorption spectroscopy, electrochemical detection
Range	SO2	0-1000ppm
	CO2	0-10000ppm
Response time		≤30S
System		
Satellite positioning		GPS
Data storage		SD card
Power supply voltage		24V
Output data		Oil spill status, gas concentration, GPS coordinates, time, temperature, etc.
Data transmission method		WiFi/4G/5G
Operating temperature		-20°C to + 55°C
Operating humidity		95% RH, no condensation
Enclosure protection level		IP54
Android software		
Basic functions		Flexible settings for UAV and fluorescence oil spill gas detection parameters Real-time display of oil spill, gas status, and alarm data Supports path inspection and automatic cruising One-click export of test reports after mission completion

3. Accessories

Standard Accessories	
1	Fluorescence Oil Spill Gas Detection System
2	DJI Matrice M350RTK UAV
3	Android Software

4. Effect Diagram

