AEROSPACE TECHNOLOGIES

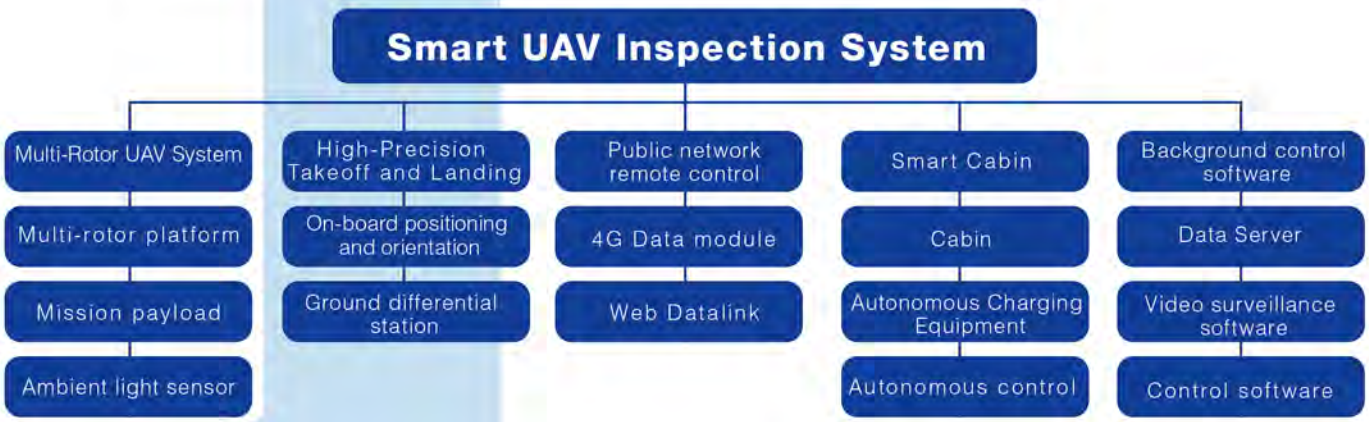
SMART UAV INSPECTION SYSTEM

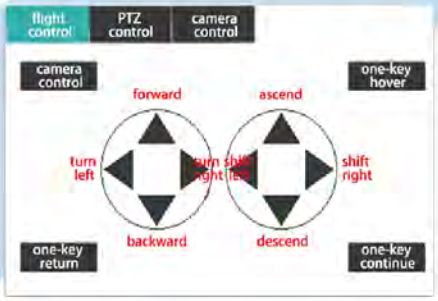
UAV Systems and Service Provider

ISO 9001

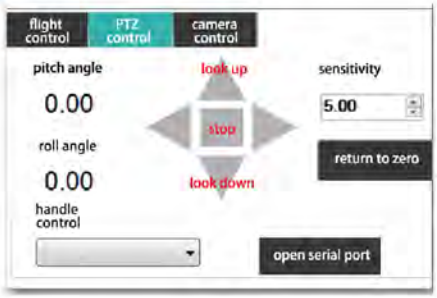
System Introduction

The smart UAV inspection system is a new application mode. Through its application, it can reduce personnel input, improve operational efficiency, provide a strong guarantee for the large-scale promotion of multi-rotor UAV, and provide a more convenient and intelligent solution for applications such as highways, urban roads, security warehouses, oil pipelines, coastal patrols, and other applications.

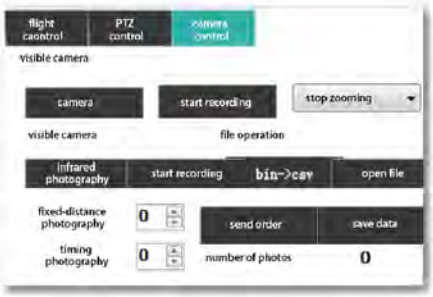




Aircraft Control Interface



PTZ Camera Control Interface



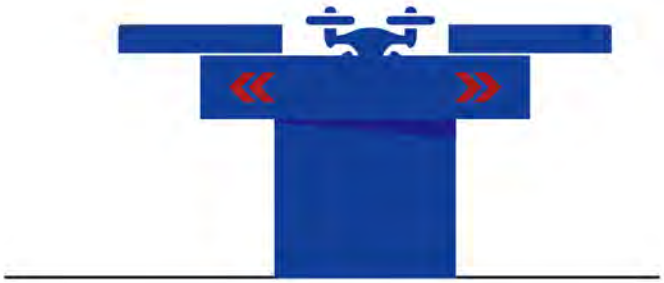
Payload Control Interface

Application Mode

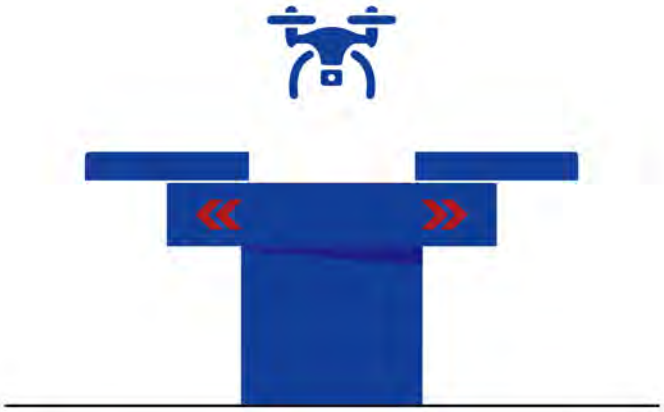
The cabin system is installed along with fixed positions or areas and the number of cabins is more than that of UAVs. Command centers can control single or multiple drones through a specified landing location (take-off and landing points can be different). The UAV generates cruise lines autonomously, the top of the smart cabin opens automatically. The UAV takes off independently and executes inspection tasks, and sends video back to the command center for decision-making.

System Demo

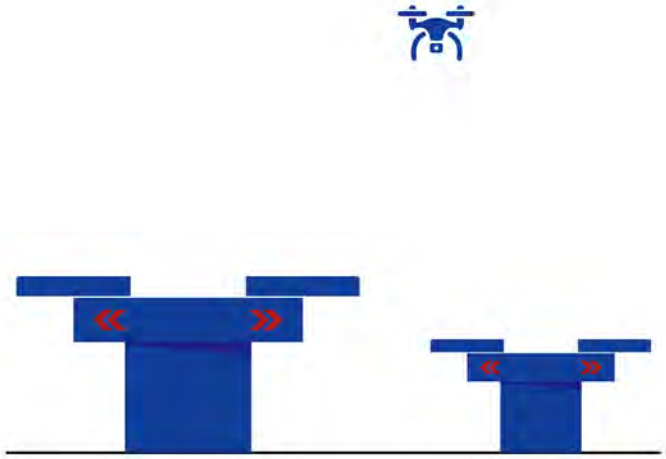
1.Control platform send instructions to Smart Cabin



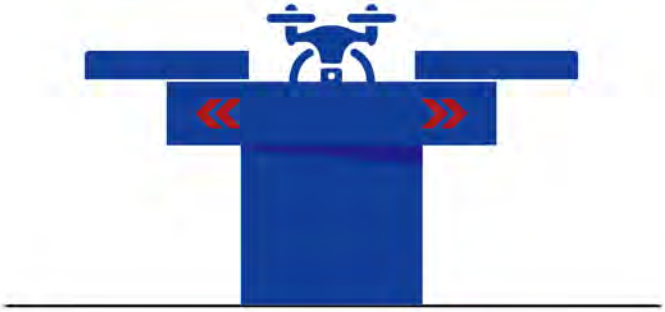
2.Smart Cabin opening



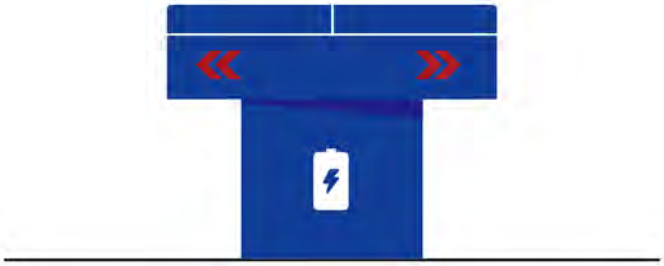
3.Multi-rotor UAV takes off autonomously



4.Cruise operation of multi-rotor UAV



5.Autonomous landing of multi-rotor UAV after completing the operation



6.Smart cabin closes and starts autonomous charging of UAV

System Features

Navigation and Directional Dual Backup

High-precision take-off and landing technology

Single-Key control for Takeoff, Mission, and Landing

Highly intelligent

Backstage operation of multiple UAVs

Strong environmental adaptability

Remote telemetry 4G control

Point A, B one-way flight

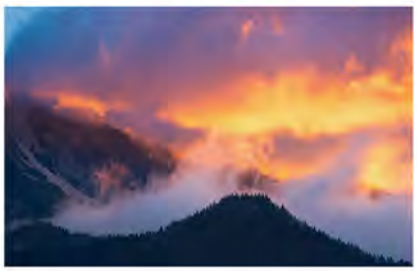
Special requirements can be customized

Application Scenarios

Environmental monitoring

Pipeline inspection

Border Patrol



Forest fire prevention

Power inspection

Industrial park patrol

Product Parameters

Long-range Multi-rotor UAV

	Equipment	System functions and technical parameters
Multi-rotor platform	Head pointing	Significant Head marking
	Diagonal distance	1200mm
	Flight Duration	⩾45min (Below 1000m)
	Maximum flight speed	⩾40km/h
	Maximum relative flight altitude	⩾1000m
	Operating altitude	⩾3000m
	Take-off weight (standard payload)	11.5kg
	Maximum payload capacity	5kg
	Operating temperature	-10℃~55℃
	Maximum wind resistance	⩾Level 5
	Rainproof ability	Support light rain returning
	Battery	Battery 1 Set
Flight control	Control mode	4G remote control
	Basic control	Single-key Take-off, Landing, Hovering, Continuation, Return
	Black box function	Supports local readings and analysis of flight logs
	Self-check function	Aircraft control module, battery voltage, GPS positioning status above components failure, system lock, cannot fly
	Single-key return	Two ways to return the original route
	Number of waypoints	⩾ 200
	Battery voltage emergency alarm	Two-stage voltage alarm function on-ground mapping displays and aircraft, Software alarm of ground station for return Operations when battery voltage is Lower
Precision take-off and landing	Accuracy level of take-off and landing	Accuracy level of take-off and landing⩽0.35m Landing point coordinates can be set to take-off or other points
Communication Equipment	4G data link	HDMI video interface can be remotely received SD video, video transmission is not affected by distance
Standard load (Replaceable)	4G data link	Roll angle range-85°~+85° endless rotation Pitch angle range -90°~+90° endless rotation Support for sensor control PTZ Camera supports direct command control of angle and focal length to facilitate quick adjustment of angle and focal length
	Camera load	4 MP CMOS Sensor 30X Optical zoom lens

Smart Cabin

Mechanical parameters	Size	⩽200×160×110 (H) cm
	Weight	⩽300kg
	Material	Steel/Aluminum
	Extend diameter	⩽4m
Electrical parameters	Input Voltage	200-240V AC
	Power consumption	600W (Peak) /200W (Average)
Environmental perception parameters	Temperature	-30℃~60℃
	Humidity	0~100%
	Wind speed	0~30m/s
	Wind direction	Omnidirectional
	Rainfall	0~50mm/24h
Operational Environment	Working environment	0℃~50℃
	Storage environment	-20℃~80℃
Others	Communication Mode	4G network
	Opening or Close time	⩽5 minute
	Protection	Overload, Short Circuit

Smart UAV Inspection System Product Design